

The Samsung logo is located in the top left corner. It consists of the word "SAMSUNG" in a bold, sans-serif font, enclosed within a dark, horizontally-oriented oval shape. The background of the entire cover is a grid of squares in various shades of gray, creating a textured effect.

SAMSUNG

# User Manual

High Definition Digital Camcorder





[www.samsung.com/register](http://www.samsung.com/register)

HMX-S10BN/HMX-S15BN/HMX-S16BN

# before reading this user manual

## SAFETY WARNINGS

What the icons and signs in this user manual mean;

 WARNING	Means that there is a potential risk of death or serious injury.
 CAUTION	Means that there is a potential risk of personal injury or damage to the product.
 CAUTION	To reduce the risk of fire, explosion, electric shock, or personal injury when using your camcorder, follow these basic safety precautions.
 PRECHECK	Means hints or referential pages that may be helpful when operating the camcorder.
	Settings required before using a function.

These warning signs are here to prevent injury to you and others.

Please follow them explicitly. After reading this section, keep it in a safe place for future reference.

## PRECAUTIONS

### Warning!

- When using the AC power adapter with your camcorder, connect the adapter to an outlet with protective grounding.
- Do not expose the camcorder battery to direct sunlight, heaters, radiators, fire, or any other source of excessive heat.

### Caution

If you replace the battery with the wrong battery, you can cause an explosion. Replace only with the same battery or an equivalent type.

If you plug the AC adapter into a 240V AC outlet, be sure to use a suitable plug adapter.

# IMPORTANT INFORMATION ON USE

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## About this user manual

Thank you for purchasing this Samsung Camcorder. Please read this user manual carefully before you use the camcorder and keep it handy for future reference. Should your camcorder fail to operate correctly, refer to Troubleshooting.

### This User Manual covers HMX-S10, HMX-S15, and HMX-S16 models.

- The HMX-S15 and HMX-S16 have a 32GB, and a 64GB built-in storage media (SSD) respectively with a built-in WIFI module but also use memory cards.
- The HMX-S10 models do not have built-in storage media (SSD) and use memory cards. Although some features of HMX-S10 models are different, they operate in the same way.
- Illustrations of model HMX-S10 are used in this user manual.
- The displays in this user manual may not be exactly the same as those you see on the LCD screen.
- Designs and specifications of the camcorder and other accessories are subject to change without any notice.
- In this user manual, the icon or symbol in the parenthesis appearing in a description of a submenu item indicates it will appear on the screen when setting the corresponding item.  
Ex) Submenu item of "iSCENE" ➞ page 61
  - "Sports" (🏃): Recording people or objects in motion. (If set, the corresponding icon (🏃) will appear on the screen.)

### The following terms are used in this manual:

- 'Scene' refers to the point where you press the **Record Start/Stop** button to start recording until you press again to pause the recording.
- The terms 'photo' and 'still image' are used interchangeably with the same meaning.

## Before using this camcorder

- **This camcorder records video in H.264 (MPEG4 part10/AVC) format and in High Definition Video (HD-VIDEO) or Standard Definition Video (SD-VIDEO).**
- **You can play back and edit the video recorded by the camcorder on a personal computer with the built-in software in this camcorder.**
- **Please note that this camcorder is not compatible with other digital video formats.**
- **Before recording important video, make a trial recording.**  
Play back your trial recording to make sure the video and audio have been recorded properly.
- Recorded contents may be lost due to a mistake when handling this camcorder or memory card, etc. Samsung shall not be responsible for compensation for damages due to the loss of recorded contents.

# before reading this user manual

- **Make a backup of important recorded data.**

Protect your important recorded data by copying the files to a PC. We also recommend you copy it from your PC to other recording media for storage. Refer to the software installation and USB connection guide.

- **Copyrights: Please note that this camcorder is intended for individual use only.**

Data recorded on the storage media in this camcorder using other digital/analog media or devices is protected by the copyright act and cannot be used without permission of the owner of the copyright, except for personal enjoyment. Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.



- We recommended you use the camcorder at least once a month to maintain its performance and life.
- Check the image resolution before developing photos.
- Make sure to check all functions of the camcorder before recording to prevent recording failure.
- This wireless equipment may have radio interference in operation so it cannot support life safety services.
- For Open Source licenses information, refer to the "Opensource-S10.pdf" in the provided CD-ROM.

## Notes regarding trademarks

- All the trade names and registered trademarks mentioned in this manual or other documentation provided with your Samsung product are trademarks or registered trademarks of their respective holders. Furthermore, "™" and "®" are not mentioned in each case in this manual.
- The SD logo is a trademark. The SDHC logo is a trademark.
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- DLNA and DLNA logo are trademarks of the Digital Living Network Alliance.
- AllShare™ is a Samsung's trademark.



# important safety instructions

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

## Warning

To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture.

## Caution

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachment/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



# important safety instructions

- 15.** Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**16. VENTILATION:**

Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed, sofa, rug, or other similar surface: on or near a radiator or heat register. This CAMCORDER should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

**17. POWER SOURCES:**

The CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply at your home, consult your appliance dealer or local power company. A CAMCORDER is intended to be operated from battery power, or other sources, refer to the operating instructions.

**18. GROUNDING OR POLARIZATION:**

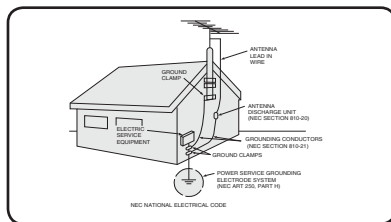
This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

**19. POWER-CORD PROTECTION:**

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords or plugs, convenient receptacles, and the point where they exit from the unit.

**20. OUTDOOR ANTENNA GROUNDING:**

CAMCORDER, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire and supporting structure, grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding to conductors, location of antenna-discharge unit, connection to grounding electrodes and requirements for the grounding electrode. See figure below.



**21. LIGHTNING:**

For added protection of this CAMCORDER during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the CAMCORDER due to lightning and powerline surges.

**22. POWER LINES:**

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

**23. OVERLOADING:**

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

**24. OBJECTS AND LIQUIDS:**

Never push objects of any kind into this CAMCORDER through openings as they may touch dangerous voltage points or short out a part that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spillage occur, unplug unit and have it checked by a technician before use.

**25. SERVICING:**

Do not attempt to service this CAMCORDER yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**26. DAMAGE REQUIRING SERVICE:**

Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If any liquid has been spilled onto, or objects have fallen into the CAMCORDER.
- c. If the CAMCORDER has been exposed to rain or water.
- d. If the CAMCORDER does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.
- e. If the CAMCORDER has been dropped or the cabinet has been damaged.
- f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

**27. REPLACEMENT PARTS:**

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer and having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

**28. SAFETY CHECK:**

Upon completion of any service or repairs to this CAMCORDER, ask the service technician to perform safety checks to determine that the CAMCORDER is in safe operating order.

- 29.** To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.


- 30.** If this power supply is used at 240V ac, a suitable plug adaptor should be used.

# important safety instructions

## USER INSTALLER CAUTION:

Your authority to operate this FCC certified equipment could be voided if you make changes or modifications not expressly approved by this party responsible for compliance to part 15 FCC rules.

## NOTE:

 LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS. For details see [lamprecycle.org](http://lamprecycle.org), [eiaa.org](http://eiaa.org), or call 1-800-Samsung (7267864)

## CALIFORNIA USA ONLY

**This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA**  
" Perchlorate Material - special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)."

## NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.
- The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This Booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

## FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions;

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

# safety information

The safety precautions illustrated below are to prevent personal injury or material damages. Heed all instructions carefully.



## WARNING

Means that there is a potential risk of serious personal injury.



## CAUTION

Means that there is a potential risk of personal injury or damage to the product



Prohibited action.



Do not disassemble the product.



Unplug from the power supply.



Do not touch the product.



This precaution must be kept.



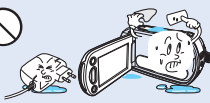
## WARNING



Do not overload outlets or extension cords as this may result in abnormal heat or fire.



Using the camcorder at temperatures over 60°C (140°F) may result in fire. Keeping the battery at a high temperature may cause an explosion.



Do not allow water or metal and inflammable matter to enter the camcorder or AC power adaptor. Doing so may pose a fire hazard.



No sand or dust! Fine sand or dust entering the camcorder or AC power adaptor could cause malfunctions or defects.



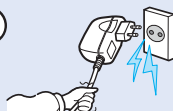
No oil! Oil entering the camcorder or AC power adaptor could cause electric shock, malfunctions or defects.



Do not aim the camcorder directly into the sun. Doing so could cause eye injuries, as well as lead to malfunctioning of internal parts of the product.



Do not bend the powercord or damage the AC power adaptor by pressing on it with a heavy object. There may be a risk of fire or electric shock.

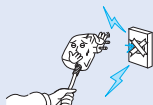


Do not disconnect the AC adaptor by pulling on its power-cord, as this could damage the power-cord.



Do not use the AC adaptor if it has damaged, split or broken cords or wires. Doing so may cause fire or electric shock.

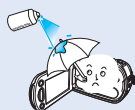
# safety information



Do not connect the AC adaptor unless the plug can be fully inserted with no part of the blades exposed.



Do not dispose of battery in a fire as it may explode.



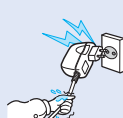
Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the camcorder.



Keep the camcorder away from water when used near the beach or pool or when it rains. There is a risk of malfunction or electric shock.



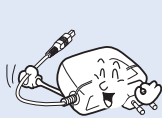
Keep the used lithium battery or memory card out of the reach of children. If the lithium battery or memory card is swallowed by children, consult physician immediately.



Do not plug or unplug the power cord with wet hands. There is a risk of electric shock.



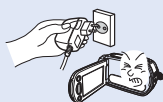
Keep the power-cord unplugged when not in use or during lightning storms. There is a risk of fire.



When cleaning the AC adaptor, unplug the power-cord. There is a risk of malfunction or electric shock.



If the camcorder makes an abnormal sound, or smell or smokes, unplug the power-cord immediately and request service from a Samsung service center. There is a risk of fire or personal injury.

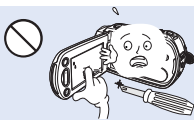


If the camcorder malfunctions, immediately detach the AC adaptor or battery from the camcorder. There is a risk of fire or injury.

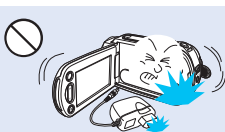


Do not attempt to disassemble, repair, or modify the camcorder or the AC adaptor to avoid a risk of fire or electric shock.

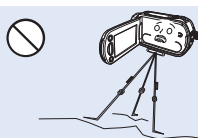
## ! CAUTION



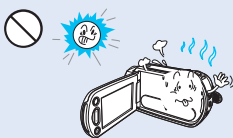
Do not press the surface of the LCD with force, or hit it with a sharp object. If you push the LCD surface, display unevenness may occur.



Do not drop or expose the camcorder, battery, AC adaptor or other accessories to severe vibrations or impact. This may cause a malfunction or injury.



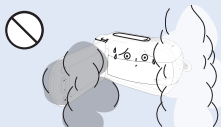
Do not use the camcorder on a tripod (not supplied) in a place where it is subject to severe vibrations or impact.



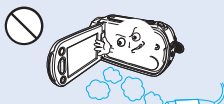
Do not use the camcorder in direct sunlight or near heating equipment. The heat may cause a malfunction or injury.



Do not leave the camcorder in a closed vehicle for a long time, where the temperature is very high.



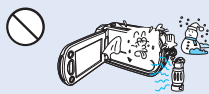
Do not expose the camcorder to soot or steam. Thick soot or steam could damage the camcorder case or cause a malfunction.



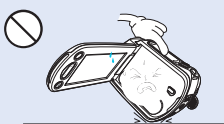
Do not use the camcorder near dense exhaust gas generated by gasoline or diesel engines, or corrosive gas such as hydrogen sulphide. Doing so may corrode the external or internal terminals, disabling normal operation.



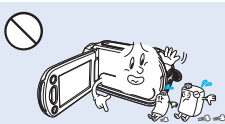
Do not expose the camcorder to insecticide. Insecticide entering the camcorder can cause the camcorder to operate abnormally. Turn the camcorder off and cover it with vinyl sheet, etc. before using insecticide.



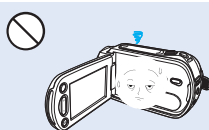
Do not expose the camcorder to sudden changes in temperature or high humidity. There is also a risk of defect or electric shock when using outdoors during lightning storms.



Do not place the camcorder with the open LCD screen down



Do not wipe the camcorder body with benzene or thinner. The exterior coating could peel off or the case surface could deteriorate.

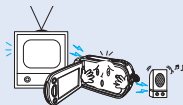


Do not leave the LCD screen open when not using the camcorder.

# safety information



Do not hold the camcorder by the LCD monitor when lifting it. The LCD screen could detach and the camcorder may fall.



Do not use the camcorder near a TV or radio. This could cause noise on the TV screen or the radio.



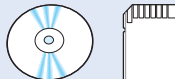
Do not use the camcorder near sources of strong radio waves or magnetism such as speakers or a large motor. Noise from these sources can distort the video or audio you are recording.



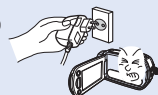
Use Samsung-approved accessories only. Using products from other manufacturers may cause overheating, fire, explosion, electric shock or personal injuries caused by abnormal operation.



Place the camcorder on a stable surface that is well ventilated.



Keep important data separately. Samsung is not responsible for data loss.



Only use the adaptor plug in a socket that is easily accessible. If any problem occurs with the product, you must pull the plug out of the socket to disconnect the power completely. Turning off the power button on the product does not completely disconnect the power.



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# quick start guide

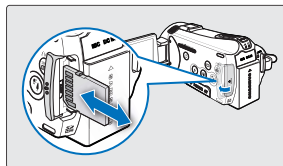
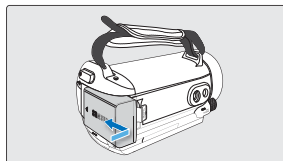
This quick start guide introduces the basic operation and features of your camcorder. See the reference pages for more information.

## You can record videos in H.264 format!

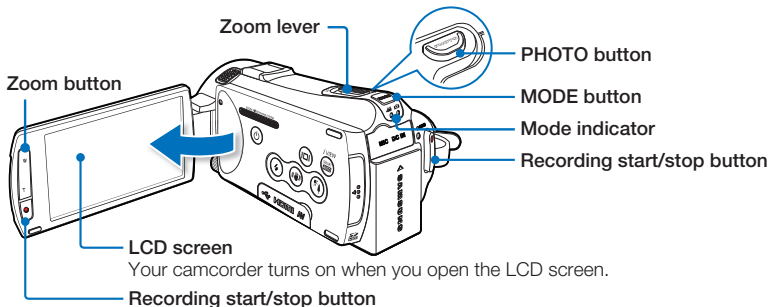
You can record videos in H.264 format that are convenient to email and share with your friends and family. You can also take photos with your camcorder.

### STEP1: Get ready

1. Attach the battery to the camcorder. ➔page 20
  - Align the battery grooves with the battery compartment, and then slide the battery into place in the direction of the arrow.
2. Charge the battery fully. ➔page 21
  - The battery is fully charged when the CHG (charging) indicator light turns green.
3. Insert a memory card. ➔page 32
  - You can use commercially available SDHC (SD High Capacity) or SD memory cards with this camcorder.
  - Set the appropriate storage media. ➔page 31 (HMX-S15/S16 only)



### STEP2: Record with your camcorder

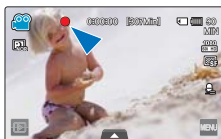


# quick start guide

## Recording videos

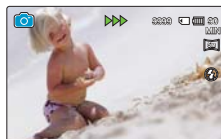
Your camcorder uses advanced H.264 compression technology give you the clearest video quality.

1. Open the LCD screen.
  - Your camcorder turns on when you open the LCD screen.
2. Select the Video record (👤) mode by pressing the **MODE** button.
3. Press the **Recording start/stop** button.
  - To stop recording, press the **Recording start/stop** button.



## Recording photos

1. Open the LCD screen.
2. Select the Photo record (📷) mode by pressing the **MODE** button.
3. Press the **PHOTO** button lightly to adjust the focus, then press it fully (a shutter click sounds).



### Using 'Quick On STBY' by opening/closing the LCD screen.

When you close the LCD screen during standby, your camcorder goes to Quick On STBY mode (power saving mode). You can start recording quickly when you open the LCD screen.

➡ page 102



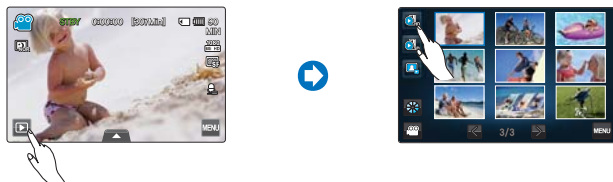
- Your camcorder is compatible with H.264 format "1080/60i (SF)" which provides highly detailed, beautiful images.
- The default setting is "1080/60i (SF)". You can also record with SD (standard definition) video quality.
- You can also take photos in the Video record mode. ➡ page 40

## STEP3: Play back videos or photos

### Viewing videos or photos on the LCD screen

You can find your desired recordings quickly by using the thumbnail index view.

1. Touch the Play (▶) tab on the LCD screen in STBY mode.
2. Touch the desired thumbnail (📺 / 📷 / 📱) tab, then touch the desired image.



### Viewing on a high definition TV

You can enjoy HD (high definition) videos. ➡ page 122



You can also play back videos on a SD (standard definition) image quality TV. ➡ page 124

## STEP4: Save recorded videos or photos

### Simple and fun! Enjoy the various features of Intelli-studio on your Windows computer.

Using the Intelli-studio program built into your camcorder, you can import videos/photos into your computer, and edit or share the videos/photos with your friends and family. For details, see pages 129~135.



# quick start guide

## Importing and viewing videos/photos from the camcorder to your PC

1. Launch the Intelli-studio program by connecting the camcorder to your PC via USB cable.
  - The new file saving window appears with the Intelli-studio main window. Click **"Yes"**, the uploading procedure will start.
2. The new files are saved to your PC and registered under **"Contents Manager"** in the Intelli-studio program.
  - You can arrange the files by different criteria such as Face, Date, etc.
3. Double-click a file to start playback.



## Sharing the videos/photos onto YouTube/Flickr/FaceBook

Share your contents with the world by uploading videos and photos directly to a web site with one click. Click **"Share ( )"** → **"Upload"** tab on the browser. ↪page 133



The Intelli-studio runs automatically when you connect the camcorder to a Windows computer if you have set **"PC Software: On"**. ↪page 93

## STEP5: Delete videos or photos

If the storage media is full, you cannot record new videos or photos. Delete videos or photos that you have saved to a computer from the camcorder's storage media. Then you can record new videos or photos on newly freed up space.

Touch the **Play ( )** tab → **Menu ( )** tab → **"Delete"** on the LCD screen. ↪page 110



# getting to know the camcorder

## WHAT'S INCLUDED WITH YOUR CAMCORDER

Your new camcorder comes with the following accessories. If any of these items is missing from your box, call Samsung's Customer Care Center.



Model name	Internal memory	Color	Memory card slot	LCD screen	Lens	Wi Fi module
HMX-S10BN	-	Black	Yes	Color / Touch panel	Optical zoom ratio: x15 (Intelli zoom ratio: x18)	-
HMX-S15BN	32GB	Black		Color / Touch panel	Digital zoom ratio: x10	Yes
HMX-S16BN	64GB	Black		Color / Touch panel	(Video recording mode only)	Yes

- Although some features of the models are different, they operate in the same way.

## Checking your accessories



**Battery**  
(IA-BP210E)  
(AD43-00196A)



**Remote control  
& button type  
battery**  
(AD59-00169A)



**AC power  
adaptor**  
(AA-MA9 type)  
(AD44-00151A)



**Audio/Video  
cable**  
(AD39-00155A)



**Mini HDMI  
cable**  
(AD39-00159A)



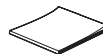
**USB cable**  
(AD39-00169A)



**Ferrite Core**  
(3301-001502)



**User manual  
CD**  
(AD46-00340A)



**Quick start  
guide**  
(AD68-05193A)

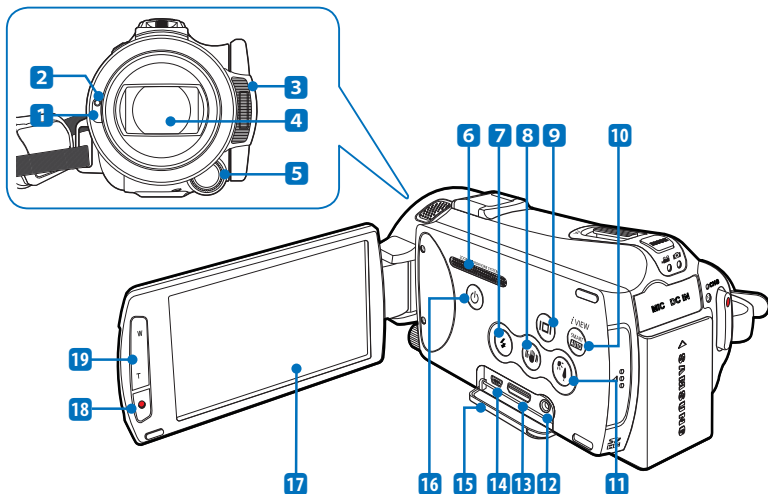


- The exact appearance of each item may vary by model.
- The contents may vary depending on the sales region.
- Parts and accessories can be purchased after consulting with your local Samsung dealer. SAMSUNG is not responsible for reduced battery life time or malfunctions caused by any unauthorized use of accessories such as the AC power adaptor or the batteries.
- A memory card is not included. See page 33 for memory cards compatible with your camcorder.
- Your camcorder includes the user manual CD and printed quick start guide.

# getting to know the camcorder

## LOCATION OF CONTROLS

### Front/Left



1 Remote control sensor

2 Recording indicator

3 Built-in flash

4 Lens

5 Manual button/dial

6 ZOOM MICROPHONE SYSTEM

7 Flash button

8 Anti-shake (OIS) button

9 Display button

10 SMART **AUTO** / &VIEW button

11 Backlight button

12 AV jack (Composite)

13 HDMI jack

14 USB jack

15 Jack cover (HDMI AV)

16 Power button

17 TFT LCD screen (Touch screen)

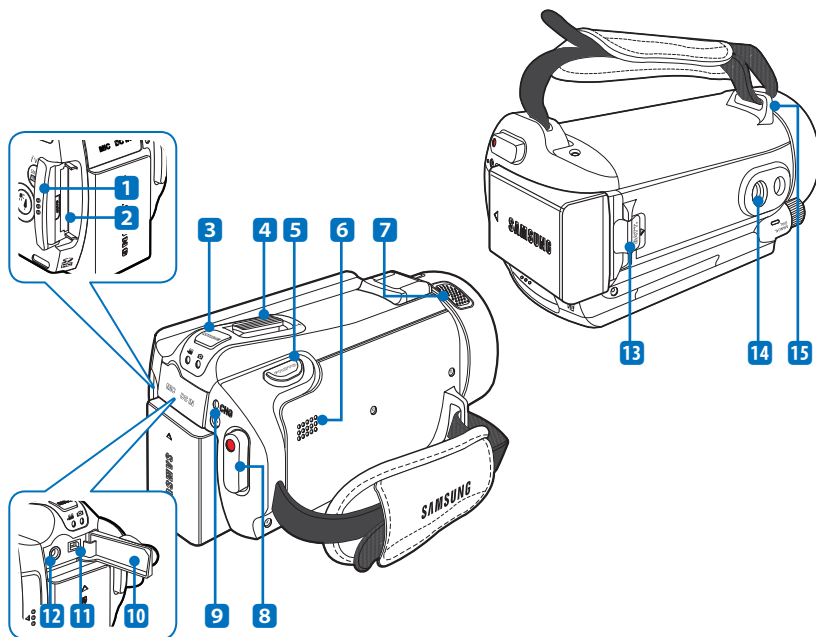
18 Recording start/stop button

19 Zoom (W/T) button



During a recording, be careful not to block the internal microphone and lens.

## Rear/Right/Top/Bottom



- ① Memory card cover
- ② Memory card slot
- ③ MODE button / Mode indicator

📹 : Video mode

📷 : Photo mode

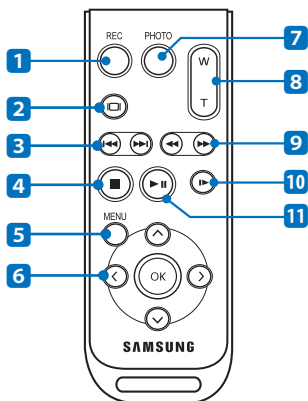
- ④ Zoom (W/T) lever
- ⑤ PHOTO button
- ⑥ Built-in speaker
- ⑦ Internal microphone

- ⑧ Recording start/stop button
- ⑨ Charging (CHG) indicator
- ⑩ Jack cover (MIC DC IN)
- ⑪ DC IN jack
- ⑫ External microphone (MIC) jack
- ⑬ Battery release switch
- ⑭ Tripod receptacle
- ⑮ Grip belt hook

# getting to know the camcorder

## USING THE REMOTE CONTROL

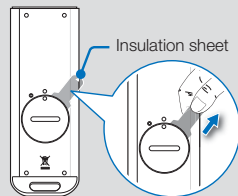
You can operate the camcorder at a distance with a remote control.



- 1 REC (Recording start/stop) button
- 2 Display (Ⓢ) button
- 3 Skip (⏮/⏭) button
- 4 Stop (⏹) button
- 5 MENU button
- 6 Control (◀/▶/⏏/⬆/⬆) buttons
- 7 PHOTO button
- 8 Zoom (W/T) button
- 9 Search (⏮/⏭) button
- 10 Slow playback (⏪) button
- 11 Play/Pause (⏩) button

### Remove the insulation sheet before using the remote control!

Remove the insulation sheet before using the remote control as shown in the illustration.



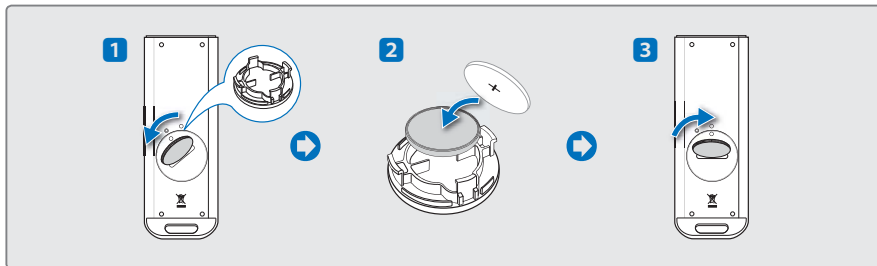
The remote control may malfunction or not work when two buttons are pressed at the same time.



- The buttons on the remote control function the same as those on the camcorder.
- You can use the remote control conveniently when recording yourself with the camcorder fixed on a tripod (not supplied).
- When using the remote control, point it to the receiver of the camcorder.

## Installing the button type battery (CR2025) in the remote control

1. Turn the battery holder counter clockwise (as indicated with (⊙) mark) using a coin to open it.
  - The battery holder opens.
2. Insert the battery into the battery holder with the positive (+) terminal facing down, and then it firmly until you hear a locking sound.
3. Place the battery holder back in the remote control. Match its (⊙) mark with the (○) mark on the remote control, and then turn the battery holder clockwise to lock it.




- There is a danger of explosion if you replace this battery with the wrong type of battery. Replace only with the same or equivalent type.
- The button battery has a expected lifetime of 5 to 6 months, depending on how much you use the remote control.
- You can purchase a replacement CR2025 type button battery at your local Samsung dealer.
- Do not pick up the battery using tweezers or other metal tools. This will cause a short circuit.
- To avoid the risk of explosion, do not recharge, disassemble, heat, or immerse the battery in water.
- Keep the button type battery out of the reach of the children. Should the battery be swallowed, consult a doctor immediately.

# getting to know the camcorder

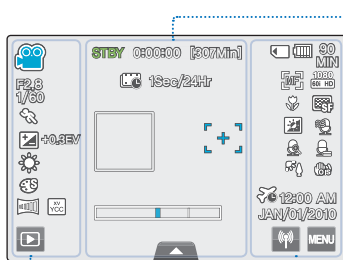
## IDENTIFYING THE SCREEN DISPLAYS

The available functions vary depending on the operation mode you have selected. Different indicators appear depending on the setting values.










### PRECHECK!

- This On Screen Display (OSD) is shown in the Video record mode only.
- Select the Video record (  ) mode by pressing the **MODE** button. ➡ page 27













## Video record mode














### Center of the LCD screen

Indicator	Meaning
  	Operating status (standby / recording) / Self Timer*
	Time counter (video recording time)
	Remaining recordable time
	Time Lapse REC*
	Face Detection frame
	Touch Point
	Optical zoom / Digital zoom
	Quick menu tab

### Left of the LCD screen

Indicator	Meaning
 	Video record mode / Smart Auto mode
  	Manual aperture*, Manual shutter* / Super C.Nite*
	iSCENE
	Exposure value*
	White Balance
	Digital Effect
 	Fader*, xVCC
	Play tab


### Right of the LCD screen

Indicator	Meaning
 	Storage media (memory card or internal memory (HMX-S15/S16 only))
 	Battery info. (remaining battery level)
  	Manual focus* / Touch Point* / Face Detection, Video resolution / Slow Motion*
 	Tele Macro, Video quality
 	LCD Enhancer, Wind Cut
	Voice Reduction, Zoom MIC*, MIC Level
	Back light, Anti-shake (OIS)
	Time Zone (visit), Date/Time
	Wireless Networking tab (HMX-S15/S16 only), Menu tab

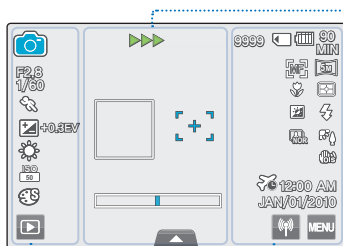


- Settings of functions marked with \* are not retained when the camcorder is turned off.
- The on-screen indicators are based on a 32GB SDHC memory card capacity.
- The screen displayed above is for explanation purposes and may differ from your actual display.
- For warning indicators and messages, see pages 136-141
- The icons illustrated above and their positions can be changed without notice for better performance.






## PRECHECK!

- This On Screen Display (OSD) is shown in the Photo record mode only.
- Select the Photo record () mode by pressing the **MODE** button. ➡ page 27









## Photo record mode




















### Center of the LCD screen

Indicator	Meaning
● / >>>> / 	Operating status (focus / recording)/ Self Timer*
	Face Detection frame
	Magic Touch point
	Optical zoom
	Quick menu tab

### Left of the LCD screen

Indicator	Meaning
 / 	Photo record mode / Smart Auto mode
F2.8 / 1/30	Manual aperture*, Manual shutter*
	iSCENE
 +0.3EV	Exposure value*
	White Balance
	ISO
	Digital Effect
	Play tab

### Right of the LCD screen

Indicator	Meaning
9999	Image counter (total number of photo the camcorder can now record)
 / 	Storage media (memory card or internal memory (HMX-S15/S16 only))
 COMIN	Battery info. (remaining battery level)
 /  /  / 	Manual focus* / Magic Touch* / Face Detection, Video quality
 , 	Tele Macro, Metering
 , 	LCD Enhancer, Flash
 , 	Cont. Shot, Back light
	Anti-shake (OIS)
 12:00 AM JAN/01/2010	Time Zone (visit), Date/Time
 , 	Wireless Networking tab (HMX-S15/S16 only), Menu tab



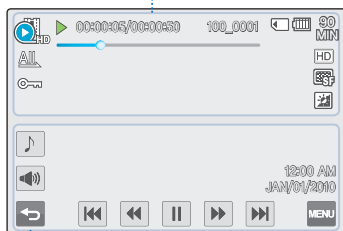
- Settings of functions marked with \* are not retained when the camcorder is turned off.
- The total number of photos the camcorder can record is based on available space in the storage media.
- The number of photos the camcorder can record may remain the same if the available space in the storage media rarely changes after recording.
- The maximum number the image counter can display is "9999."

# getting to know the camcorder

## PRECHECK!

- This On Screen Display (OSD) is shown in the Video play mode only.
- Select the Play (▶) tab on the LCD screen to select the Video play (▶/▶) mode. ➡ page 49

## Video play mode



### Top of the LCD screen

Indicator	Meaning
▶/▶	Video play mode
▶/⏸	Operating status (play, pause, etc.) / Highlight
00:00:03/00:00:30	Time code (elapsed time/recorded time)
100_0001	File name (file number)
▶/EN	Storage media (memory card or internal memory (HMX-S15/S16 only))
20 MIN	Battery info. (remaining battery level)
Progress bar	Playback progress bar
▶	Play Option
⏮	Erase protection
HD	Video resolution
⚙	Video quality
▶	LCD Enhancer

### Bottom of the LCD screen

Indicator	Meaning
▶	Background music
⏮ / ⏪ / ⏩ / ⏭	Volume tab / Play related function tab (frame advance)
⏮	Return tab
⏮ / ⏪ / ⏩ / ⏭	Play related function tab (skip/search/playback/pause/slow playback)
MENU	Menu tab
12:00 AM JAN/01/2010	Date/Time



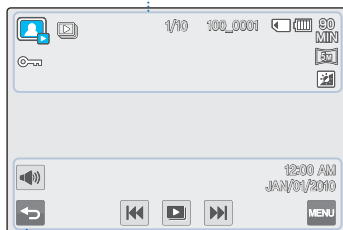
The On-Screen Display icons and controls, such as the play control, volume, and return tab appear briefly. They reappear when you touch anywhere on the screen.



## PRECHECK!

- This On Screen Display (OSD) is shown in the Photo play mode only.
- Select the Play (▶) tab on the LCD screen to select the Photo play (▶) mode. ➡ page 49

## Photo play mode



### Top of the LCD screen

Indicator	Meaning
	Photo play mode
	Slide show / Playback zoom (X1.1~X8.0)
	Photo image counter (current image / total number of recorded images)
	File name (file number)
	Storage media (memory card or internal memory (HMX-S15/S16 only))
	Battery info. (remaining battery level)
	Erase protection
	Photo resolution
	LCD Enhancer

### Bottom of the LCD screen

Indicator	Meaning
	Volume tab (when activating slide show)
	Return tab
	Previous image/Next image tab
	Slide show start tab
	Date/Time
	Menu tab

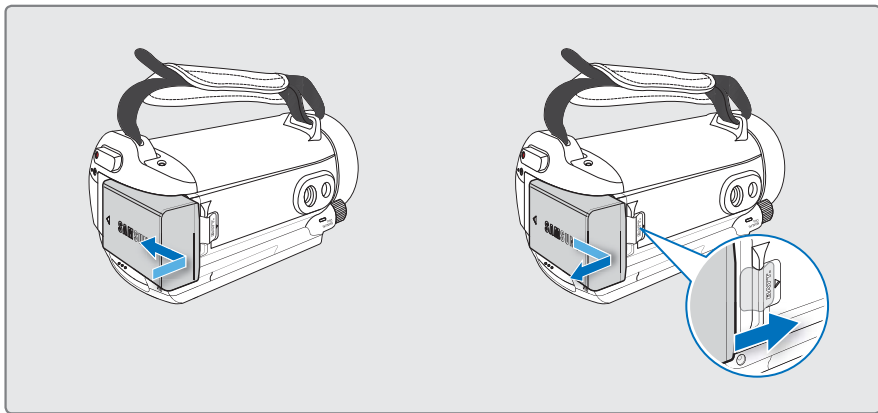


The On-Screen Display icons and controls, such as the play control, volume, and return tab appear briefly. They reappear when you touch anywhere on the screen.

# getting started

## ATTACHING/DETACHING THE BATTERY

Purchase extra batteries to allow continuous use of your camcorder.



### To attach the battery

Align the battery grooves with the battery compartment, and then slide the battery into place in the direction of the arrow.

### To detach the battery

Slide the **Battery release** switch and pull out the battery.

- Gently slide the **Battery release** switch in the direction as shown in the figure.



- Samsung is not responsible for problems that are caused by using unapproved batteries. If you use batteries from other manufacturers, there is a danger of overheating, fire, or explosion.
- Detach the battery from the camcorder with care to prevent it from falling.

# CHARGING THE BATTERY

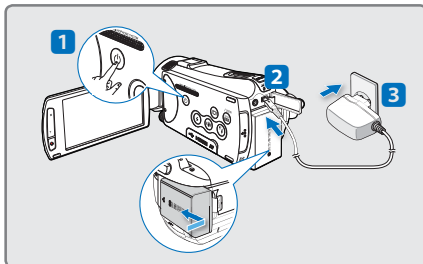
You can charge the battery using the AC power adaptor or USB cable.

## PRECHECK!

Before starting the following procedure, make sure that the battery is attached in your camcorder.

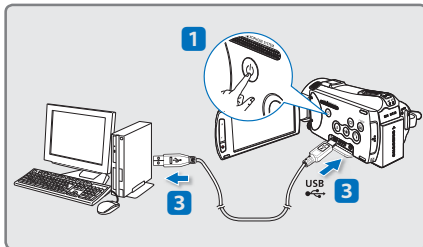
## To charge the battery with the AC power adaptor

1. Press the **Power** (⏻) button to turn off the camcorder. ➡ page 25
2. Open the jack cover and connect the AC power adaptor to the DC IN jack.
3. Connect the AC power adaptor to a wall socket.
  - The charging (CHG) indicator lights up and charging starts. After the battery is fully charged, the charging (CHG) indicator turns green.



## To charge the battery with the USB cable

1. Press the **Power** (⏻) button to turn off the camcorder. ➡ page 25
2. Open the jack cover.
3. Connect the included USB cable to the USB jack on the camcorder and to a USB jack on a running PC.
  - The charging (CHG) indicator lights up and charging starts. After the battery is fully charged, the charging (CHG) indicator turns green.



- Please make sure that there are no foreign substances on plug and in the socket when you connect the AC power supply to the camcorder.
- Charging the battery at low temperature may take longer or the battery may fail to fully charge (green indicator will not turn on).



- The battery is not charged during the power saving mode, which may keep the mode indicator on or flashing. Start charging the battery after turning off the camcorder by pressing the **Power** (⏻) button.
- We recommend you charge the battery pack in a place with an ambient temperature of 10°C ~ 30°C (50°F ~ 86°F).
- When charging, if both the USB cable and AC power adaptor are connected, the AC power adaptor will override the USB.
- The camcorder does not operate with USB power only. Use the power adaptor or battery to operate the camcorder.
- When charging using the USB jack, charging time may depend on the type of USB host (PC).

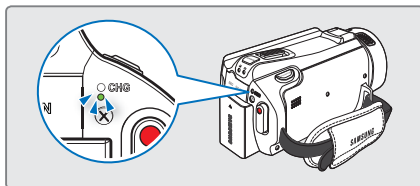
# getting started

## CHECKING THE BATTERY STATE

You can check the charging state and remaining battery capacity.





### To check the charging state

The color of the LED indicates the power or charging state.









#### Charging (CHG) indicator

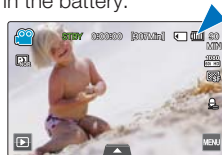
The color of the charging indicator shows the charging state.

Charging state	Remaining battery capacity is below 5%	Charging	Fully charged	Error
LED color	 (Red)	 (Orange)	 (Green)	 (Red/blink)

### Battery level display

The battery level display shows the amount of battery power remaining in the battery.

Battery level indicator	State	Message
	Fully charged	-
	25~50% used	-
	50~75% used	-
	75~95% used	-
	95~98% used	-
	Exhausted (flickers): The device will soon turn off. Change the battery as soon as possible.	-
-	The device will be forced to turn off after 3 seconds.	"Low Battery"





- The figures below are based on a fully charged battery at a normal temperature. Low ambient temperature may affect the use time.
- Battery capacity decreases over time and through repeated use. Keep the camcorder turned off while not operating it.
- Store the battery separately when finished charging or when not using it for a long time. This will help extend the life of the battery.
- The battery is charged over 95% after about 2 hours, and the indicator color changes to green. It takes about 2 hours and 40 minutes for the battery to charge 100%.

#### Available running time for the battery

Battery type	IA-BP210E	
Charging time	Using the AC power adaptor: approx. 160 min. Using the USB cable: approx. 390 min.	
Video resolution	HD	SD
Continuous recording time	Approx. 90min.	Approx. 120min.
Playback time	Approx. 110min.	Approx. 130min.

- Charging time: Approximate time in minutes required to fully charge a completely exhausted battery.
- Recording/Playback time: Approximate time available when you have fully charged the battery. 'HD' stands for high definition image quality and 'SD' stands for standard image quality.
- The time is only for reference. Times shown above are measured under Samsung's test conditions. Your times may differ, depending on your usage and conditions.
- The recording and playback times will be shorter when you use your camcorder in low temperatures.
- We recommend using the AC power adaptor when using the Time Lapse REC function.

#### Continuous Recording (without zoom)

The continuous recording time above shows the available recording time when you record without using any other function after recording starts.

The battery pack may discharge 2-3 times faster than this reference if you use the record start/stop frequently and the zoom functions, and then playback your recordings. Prepare additional charged battery pack(s) to cover the time you are planning to record on the camcorder.



The charging time will vary depending on the remaining battery level.

# getting started

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## About the battery

### • Battery Properties

A lithium-ion battery is small-sized and has a high capacity. Low ambient temperature (below 10C°) may shorten its life-span and affect its function. Before recording in low temperatures, put the battery into your pocket to warm it, then install it in the camcorder.

### • Make sure to store the battery separately after use.

- A small amount of battery power is consumed when the battery is stored in the camcorder even if the camcorder power is off.
- If the battery is installed and left in the camcorder for a long time, the battery discharges. If this occurs, you may not be able to use the battery, even if you charge it fully.
- Keep the battery out of reach of children.
- If the battery is not used for a long time, fully charge the battery and use it up on your camcorder once per 6 months to maintain proper function.

### • Charge an extra battery before using the camcorder outdoors.

- The cold temperature may shorten the length of time you can use the battery before needing to recharge it.
- Carry the supplied AC power adaptor to charge the battery while travelling.

### • Check whether the battery terminal is damaged if the battery falls or is dropped.

- If you install a battery with the damaged terminal into the camcorder, you can damage the camcorder.

### • Remove the battery and the memory card from the camcorder and disconnect the AC power adaptor after use.

- Store the battery in a stable, cool and dry place.  
(Recommended temperature : 59°F ~ 77°F (15C°~ 25C°), recommended humidity: 40%~ 60%)
- Temperatures that are too high or too low shorten the battery lifetime.
- The battery terminals can become rusty or malfunction if the battery is stored in a smoky or dusty location.

### • Do not throw the battery into fire.

- Heating or burning the battery may cause an explosion.

### • Throw away the dead battery into a recycling bin.

### • The battery lifetime is limited.

- Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace the battery with a new one.
- Each battery's life is affected by storage, operating, and environmental conditions.

## Using an AC power source

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We recommend that you use the AC power adaptor to power the camcorder from a household AC outlet when you set function settings, play back, or edit images, or use it indoors. Make the same connections as you do when charging the battery. ➡page 21



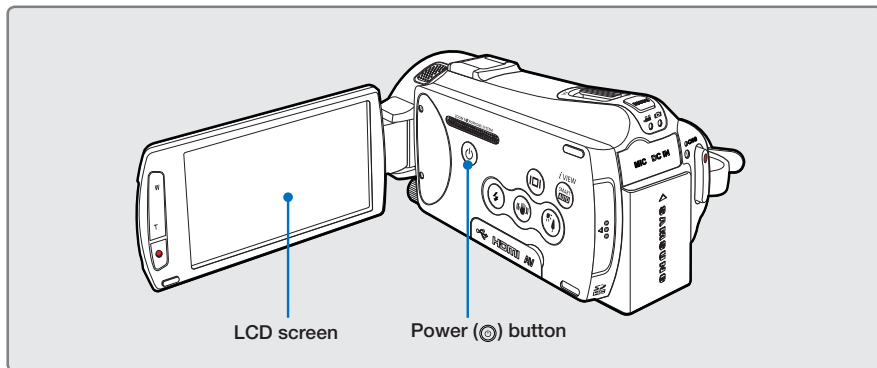
- Make sure to turn off the camcorder before disconnecting the AC power adaptor. Otherwise, you can damage the storage media or data.
- Use a nearby wall outlet when using the AC power adaptor. Disconnect the AC power adaptor from the wall outlet immediately if any malfunction occurs while using your camcorder.
- Do not use the AC power adaptor in a narrow space, such as between a wall and furniture.



- Be sure to use the specified AC power adaptor to power the camcorder. Using other AC power adaptors could cause electric shock or result in fire.
- The AC power adaptor can be used around the world. An AC plug adaptor is required in some foreign countries. If you need one, purchase it from your distributor.

# basic operation of the camcorder

## TURNING YOUR CAMCORDER ON/OFF



1. Open the LCD screen to turn on the camcorder.
  - Your camcorder turns on automatically when you open the LCD screen.
  - The lens opens automatically when the camcorder turns on.
  - You can also turn the camcorder on by pressing the **Power** (⏻) button.
  - Set the date and time when using your camcorder for the first time. ➡ page 29
2. To turn off the camcorder, press the **Power** (⏻) button for about one second.
  - Closing the LCD screen will not turn off the camcorder.



- The camcorder operates the self-diagnosis function when you turn it on. If a warning message appears, refer to '**warning indicators and messages**' (pages 136~141) and take corrective action.
- If you close the LCD screen when the power is on, the power saving mode activates. ➡ page 26

### When using this camcorder for the first time

When you use your camcorder for the first time or reset it, the time zone screen appears at start-up. Select your geographical location and set the date and time. ➡ page 29  
If you do not set the date and time, the time zone screen appears every time you turn on the camcorder.

# basic operation of the camcorder

## SWITCHING TO THE POWER SAVING MODE

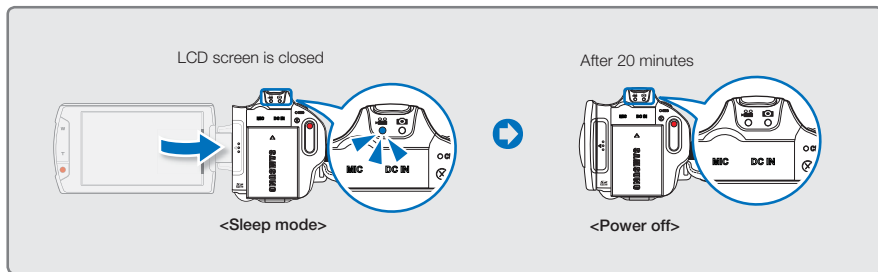
If you need to use camcorder for the extended time, setting the following functions prevents unnecessary energy consumption.

### Quick On STBY Mode in the STBY mode

- The camcorder switches to "**Quick On STBY**" mode when the LCD screen is closed.  
→ page 102

### Sleep Mode in the play mode (includes the thumbnail index view)

- The camcorder switches to the sleep mode when the LCD screen is closed, and then, if idle for more than 20 minutes, the camcorder turns off. However, if "**Auto Power Off: 5 Min**" is set, the camcorder turns off in 5 minutes.
- If you open the LCD screen during sleep mode, the sleep mode ends and the camcorder returns to the last operation mode used.



### The power saving mode does not work in the following situations:

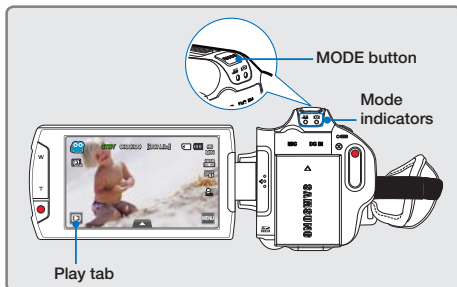
- When the camcorder has a cable connection. (Audio/Video, Mini HDMI, USB, or AC power adaptor, etc.)
- While recording, playing back, or displaying a slideshow.
- When the LCD screen is opened.
- The camcorder consumes less battery power in the power saving mode. However, if you plan to use the camcorder for an extended time, we recommend you turn off the camcorder by pressing the **Power** (⏻) button when not using it.



## SETTING THE OPERATION MODES

You can switch the operating mode in the following order each time you press the **MODE** button: Video mode (📹) ↔ Photo mode (📷).

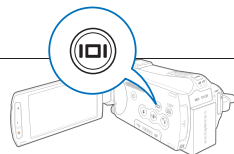
- Each time the operation mode changes, the respective mode indicator lights turn on.
- Touching the Play (▶) tab in the record mode switches the record mode to the play mode.



Mode	Mode indicators	Functions
Video mode	📹	To record and play videos.
Photo mode	📷	To record and play photos.

## USING THE DISPLAY(⏏) BUTTON

You can switch the on-screen information display mode.



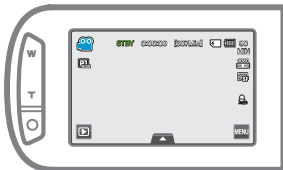
### Switching the information display mode

**Press the Display(⏏) button.**

- The full and minimum display modes alternate.

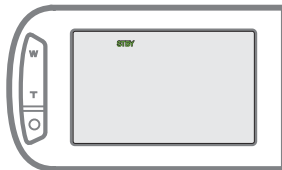
#### Full display mode

The on-screen information is displayed on the full screen.



#### Minimum display mode

Only operation status is displayed on the LCD screen.



- Warning indicators and messages may appear, depending on the recording conditions.
- The Display (⏏) button does not work in the thumbnail, menu, and network screens.

# basic operation of the camcorder

## USING THE TOUCH PANEL

The touch panel lets your playback and record with a simple touch of your finger. Place your hand on the rear side of the LCD screen to support it. Then, touch the items displayed on the screen.



### Touch

Slightly touch the items to select or execute with your finger.



### Drag

Drag the touch screen to left or right to select the desired items or files.



- Do not place a protective film on the LCD screen.
- If you leave a film attached for a long while, strong adhesion between the film and the surface of the screen may cause a malfunction of the touch panel.



- Be careful not to accidentally press the buttons near the LCD panel while using the touch panel.
- The tabs and indicators that appear on the LCD screen depend on the current recording/playback status of your camcorder.
- The camcorder does not recognize touches if you touch more than two points on the screen at the same time. Touch one point at a time.
- If you use a tool, such as a pen or pencil, the camcorder may not recognize the touch properly.

# first time settings

## SETTING THE TIME ZONE AND DATE/TIME FOR THE FIRST TIME

Set the date and time of your local area when turning on this camcorder for the first time.

1. Open the LCD screen to turn on the camcorder.
  - Your camcorder turns on automatically when you open the LCD screen.
  - The time zone ("**Home**") screen appears based on Lisbon, London (Greenwich Mean Time).
2. Select the time zone, then touch the (OK) tab.
  - Select the time zone by touching the (▲)/(▼)/(◀)/(▶) tab on the LCD screen.
3. Set the date.
  - Set the date by touching the corresponding item or dragging it up or down.
4. Touch the time (🕒) tab, then set the time.
  - Set the time by touching the corresponding item or dragging it up or down.
5. Make sure the clock is correctly set, then touch the (OK) tab.
  - The message "**Date/Time Set**" appears.



- You can set the year up to 2037, based on the "**Home**" item.
- Set "**Date/Time Display**" to On. ➔ page 90
- You can change the time zone and date/time options in the setting menu. ➔ pages 98-99
- Activating the (⚙️) icon moves the time forward by 1 hour.

### Q Built-in rechargeable battery

- Your camcorder includes a built-in rechargeable battery that retains the date and time settings even after the power is turned off.
- If the battery is depleted, the current date/time values are reset to the default values. If this occurs, you need to recharge the built-in rechargeable battery (see below), and then re-set the current date and time.

### Q Charging the built-in rechargeable battery

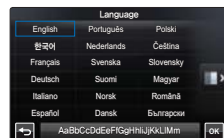
- The built-in battery is always recharged while your camcorder is connected to the AC power or while the battery is attached.
- If the camcorder is not in use for about 2 weeks and you have not connected the AC power or the battery to it, the built-in battery fully discharges. If this occurs, charge the built-in battery by connecting the camcorder to the supplied AC adaptor for 24 hours.

# first time settings

## SELECTING THE LANGUAGES

You can select the language in which the camcorder displays the menu screen or messages. The language setting is retained when the camcorder is powered off.

1. Touch the Menu (MENU) → Setting (⚙️) tab.
2. Touch the up (▲) /down (▼) tab until “**Language**” is displayed.
3. Touch “**Language**,” and then touch the desired OSD language.
  - You can view the language list more by touching the (☰) tab.
4. Touch the (OK) tab to complete the setting.
  - The menu screen and messages are displayed in the language you selected.



### Supported languages

English	Português	Polski	Ελληνικά	日本語
한국어	Nederlands	Čeština	Srpski	ไทย
Français	Svenska	Slovensky	Hrvatski	Türkçe
Deutsch	Suomi	Magyar	Українська	ایرانی
Italiano	Norsk	Română	Русский	العربية
Español	Dansk	Български	中文	עברית



- “**Language**” options may be changed without prior notice.
- The camcorder retains the language you select even when not connected to the battery or AC power.
- The date and time format may change depending on the language you selected.

# getting ready to start recording

## SELECTING THE STORAGE MEDIA (HMX-S15/S16 ONLY)

You can record videos and photos in the internal memory or a memory card. Select the desired storage media before starting recording or playback.

### PRECHECK!

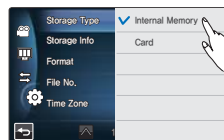
- You can use SD or SDHC cards in your camcorder. (However, some cards are not compatible, depending on the memory card manufacturer and memory card type.)
- Before inserting or ejecting the memory card, turn the camcorder off.

1. Touch the Menu (MENU) → Other setting (⚙️) tab.
2. Touch “Storage Type.”
3. Touch the desired storage media.



### Submenu items

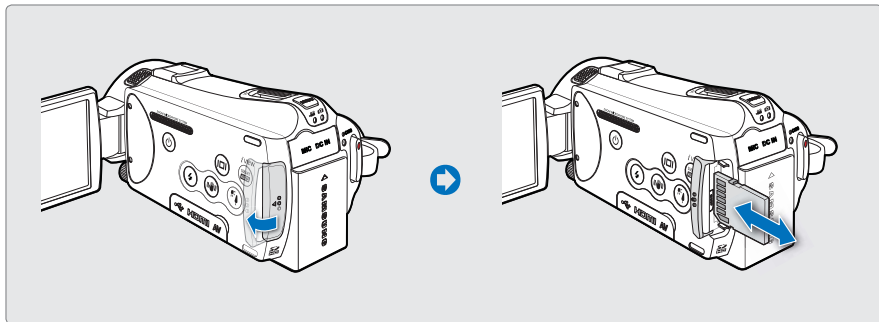
- **Internal Memory** (📁): When using the internal memory (SSD, Solid State Drive).
- **Card** (💳): When using the memory card (SD or SDHC card).



- Do not format the storage media (internal memory or memory card) on a PC.
- When you insert a memory card, the storage media setup screen appears. Touch “Yes” if you want to use a memory card, or “No” if not.
- Do not remove the power (battery or AC power adaptor) when accessing storage media to record, playback, format, delete, etc. The storage media and its data may be damaged.
- Do not eject a memory card while it is being used in the camcorder. The memory card and its data may be damaged.
- SSD based on flash memory has been adopted as internal memory for the camcorder.

# getting ready to start recording

## INSERTING / EJECTING A MEMORY CARD (NOT SUPPLIED)



### To insert a memory card

1. Open the memory card cover.
2. Insert the memory card into the card slot until it softly clicks.
  - Make sure that the terminal portion is facing left and the camcorder is placed as shown in the figure.
3. Close the memory card cover.

### To eject a memory card

1. Open the memory card cover.
2. Gently push the memory card to eject it.
3. Close the memory card cover.



- To avoid the data loss, turn off the camcorder by pressing the **Power** (⏻) button for one second before inserting or ejecting the memory card.
- Be careful not to push the memory card too hard. The memory card may suddenly pop out.



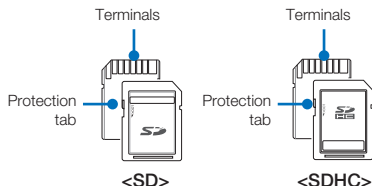
Your camcorder supports only SD (Secure Digital) and SDHC (Secure Digital High Capacity) cards. A card's compatibility with the camcorder may vary depending on the manufacturer and the type of memory card.

# SELECTING A SUITABLE MEMORY CARD (NOT SUPPLIED)

## Compatible memory cards

- This camcorder can be used with SD (Secure Digital) and SDHC (Secure Digital High Capacity) cards. We recommend you use an SDHC (Secure Digital High Capacity) card. SD cards up to 2GB are supported by this camcorder. Normal operation is not guaranteed with SD cards bigger than 2GB.
- MMC (Multi Media Card) and MMC Plus are not supported.
- Compatible memory card capacity: SD 1GB ~ 2GB, SDHC 4GB ~ 32GB
- Use compatible memory card brands. Others are not guaranteed to work. A list of compatible brands is below:
  - SDHC/SD cards: Panasonic, SanDisk, TOSHIBA
- For video recording, use a memory card that supports faster write speeds (above SDHC Class 6 card).
- SD/SDHC memory cards have a mechanical write-protection switch. Setting the switch prevents accidental erasure of files recorded on the card. To enable writing, move the switch up in the direction of the terminals. To set write protection, move the switch down.

## Usable memory card (1GB~32GB)



## SDHC (Secure Digital High Capacity) cards

- SDHC (Secure Digital High Capacity) memory card
  - An SDHC card is a higher version (Ver. 2.00) of the SD card and supports capacities above 2GB.
  - SDHC cards cannot be used with current SD enabled host devices.

## Common cautions for memory cards

- Damaged data may not be recoverable. We recommend you make a back-up of important data separately on the hard disk of your PC.
- Turning the power off or removing a memory card during an operation such as formatting, deleting, recording, and playback may cause data loss.
- After you modify the name of a file or folder stored in the memory card using your PC, your camcorder may not recognize the modified file.

# getting ready to start recording

## Handling a memory card

- We recommend that you power off before inserting or removing the memory card to avoid data loss.
- We can not guaranteed that you can use memory cards formatted by other devices. When you format a card, be sure to format the memory card using this camcorder.
- You must format newly-purchased memory cards, memory cards with data that your camcorder cannot recognize, and cards with data saved by other devices. Note that formatting erases all data on the memory card.
- If you cannot use a memory card that has been used with another device, format it with your camcorder. Note that formatting erases all information on the memory card.
- A memory card has a certain life span. If you cannot record new data, you have to purchase a new memory card.
- Do not bend, drop, or subject the card to strong impacts.
- Do not place foreign substances on the memory card terminals. Use a soft dry cloth to clean the terminals if required.
- Do not paste anything other than the label provided with the card on the label pasting area of the card.
- Do not use a damaged memory card.
- Be careful to keep the memory card out of the reach of children, who might swallow it.

## The camcorder supports SD and SDHC memory cards, giving you a wider choice of cards to choose from!

The data storage speed may differ, depending on the manufacturer and production system.

- SLC (single level cell) system: faster write speed enabled.
- MLC (multi level cell) system: only lower write speed is supported.

For best results, we recommend using a memory card that supports a faster write speed.

Using a lower write speed memory card for recording video may cause difficulties when storing.

You may even lose your video data during the recording.

In an attempt to preserve every bit of the recorded video, the camcorder forcibly stores the video on the memory card and displays a warning:

**“Low speed card. Please record at a lower resolution.”**

If you are unavoidably using a low speed memory card, the resolution and quality of the recording may be lower than the set value. ➡page 62

The higher the resolution and quality, the more memory the camcorder uses.



- Samsung is not responsible for data loss due to misuse.
- We recommend using a memory card case to prevent data loss from motion or static electricity.
- After a period of use, the memory card may get warm. This is normal and is not a malfunction.



# RECORDABLE TIME AND CAPACITY

Listed below are the available video recording times and the number of photos the camcorder can take, by memory size and resolution. Refer to the recordable video time and the number of photos when recording videos or taking photos.

## Recordable time available for video

Resolution	Memory card / Internal memory*						Internal memory*
	1GB	2GB	4GB	8GB	16GB	32GB	64GB
1080/60i (XF)	5	10	21	42	84	167	337
1080/60i (SF)	7	14	29	60	121	236	474
1080/60i (F)	11	22	45	92	185	364	731
1080/30p	7	14	29	60	121	236	474
720/60p	11	22	45	92	185	364	731
480/60p	23	47	99	200	404	790	1587

(Unit: Approximate minutes of recording)

## Recordable number of photos

Resolution	Memory card / Internal memory*						Internal memory*
	1GB	2GB	4GB	8GB	16GB	32GB	64GB
[10M] 4224x2376 (16:9)	166	333	676	1376	2828	5522	9999
[5M] 2960x1664 (16:9)	262	524	1063	2149	4444	8678	9999
[3M] 2224x1664 (4:3)	367	734	1489	3008	6222	9999	9999
[2M] 1920x1080 (16:9)	573	1147	2326	4701	9722	9999	9999
[VGA] 640x480	1530	3059	6205	9999	9999	9999	9999

(Unit: Approximate number of images)

**1GB  $\approx$  1,000,000,000 bytes : Actual formatted capacity may be less as the internal firmware uses a portion of the memory.**

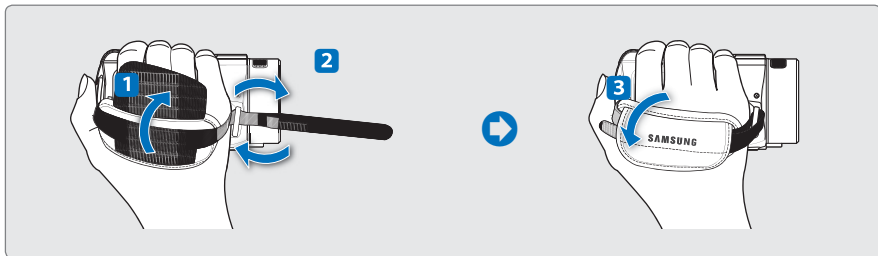


- Actual recording times may differ depending on the recording conditions and the subject.
- The higher the quality and resolution, the more memory the camcorder uses.
- Lower resolution and quality increases the recording time, but the image quality may suffer.
- The bit rate automatically adjusts to the image being recorded. Accordingly, the recording time may vary.
- Memory cards bigger than 32GB may not operate normally.
- The maximum number of recordable photo and video files is 9999, respectively.
- The recording length of a Time Lapse REC may vary depending on settings.
- Items marked with \* are available only with HMX-S15/S16 models.

# getting ready to start recording

## ATTACHING THE GRIP BELT

Adjust the length of grip belt so that the camcorder is stable when you press the **Recording start/stop** button with your thumb.

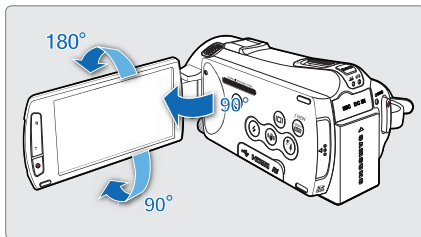


If you make the grip belt too tight and use excessive force to insert your hand, the grip belt hook of the camcorder may be damaged.

## ADJUSTING THE LCD SCREEN

The wide LCD screen on your camcorder offers high quality image viewing.

1. Open the LCD screen with your finger.
  - The screen opens up to 90°.
2. Rotate the LCD screen towards the lens.
  - You can rotate it up to 180° towards the lens and up to 90° backward. To view recordings more conveniently, rotate the screen by 180° towards the lens, then fold it back to the body.



Excessive rotation may damage the connective hinge between the screen and the camcorder.



Clean fingerprints or dust on the screen with a soft cloth.

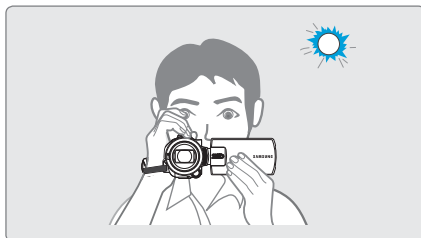
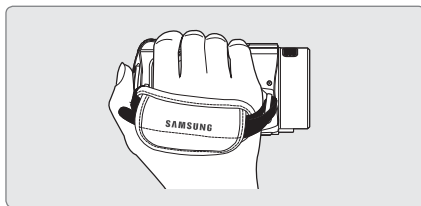
## BASIC CAMCORDER POSITIONING

Use both hands while taking a video or photo to prevent the camcorder from shaking. Try to avoid any slight movement while shooting.

### Adjusting the shooting angle

Aim the camcorder as shown in the illustration.

1. Hold the camcorder with your both hands.
2. Put your hand through the grip belt.
3. Make sure your footing is stable and there is no danger of colliding with another person or object.
4. Aim and focus as shown in the illustration.

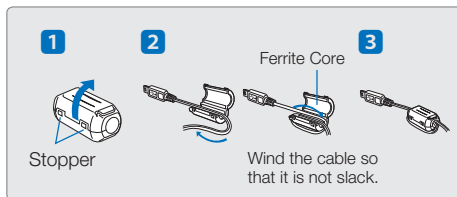


We recommend you keep the sun behind you while shooting.

## ATTACHING THE FERRITE CORE

Attach the ferrite core to the cables. The ferrite core reduces interference.

1. To open the ferrite core, release the stoppers on both ends of the ferrite core.
2. Attach the ferrite core to the cable near its connector as shown in the figure.
3. Close the ferrite core until it clicks shut.



Take care not to damage the cable.

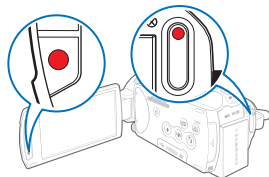
# basic recording

## RECORDING VIDEOS

This camcorder supports both High Definition (HD) and Standard Definition (SD) image resolutions. Set your desired resolution before recording. ➔page 62

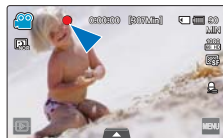
### PRECHECK!

- Insert a memory card. ➔page 32
  - Set the appropriate storage media. (HMX-S15/S16 only) ➔page 31
  - Select the Video record (📹) mode by pressing the **MODE** button.  
➔page 27
1. Select a subject to record.
    - Adjust the LCD panel to the best angle for recording.
    - Use the **Zoom** lever or **Zoom** button to adjust the size of the subject. ➔page 44
  2. Press the **Recording start/stop** button.
    - The recording (●) indicator appears and recording starts.
  3. To stop recording, press the **Recording start/stop** button again.



### 🔍 Two recording start/stop buttons to suit your preference!

This camcorder features two **Recording start/stop** buttons. One is on the rear side of the camcorder, the other is on the LCD screen. Select the one that works best for you.

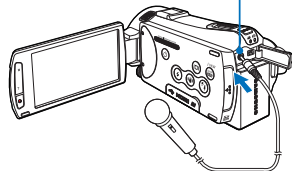


### Using the external microphone (not supplied)

When you use the built-in microphone for recording, the microphone may record the mechanical noise of the camcorder. When you record in a quiet environment, we recommend that you use an external microphone.

Connect an external microphone (not supplied) to the external microphone jack of this camcorder.

Ø 3.5 stereo mini-jack



- The internal microphone is automatically turned off when you attach an external microphone.
- Zoom MIC and Voice Reduction functions are automatically turned off.
- The sensitivity level may differ depending on the microphone. Use the MIC Level menu to find the appropriate recording sound level. Otherwise, loud sounds may produce distortion.



- If power is interrupted or an error occurs during recording, the video may not be recorded/edited.
  - Samsung is not responsible for any damage caused by a failure of normal recording or playback operation because of memory card error.
  - Note that damaged data cannot be recovered.
  - Do not turn off the camcorder or remove the memory card while accessing the storage media. Doing so may damage the storage media or the data in the storage media.
- 



- Videos are compressed in the H.264 (MPEG-4.AVC) format.
  - Eject the battery when you have finished recording to prevent unnecessary battery power consumption.
  - For the on-screen information display, see page 16
  - For approximate recording time, see page 35.
  - Sound is recorded from the internal stereo microphone above the top of the lens. Make sure that the microphone is not blocked. Also, when using a zoom microphone, be careful not to cover the internal zoom microphone on the left of the camcorder.
  - Before recording an important video, make sure to test the recording function to see if there any problems with the audio or video recording.
  - For various functions available during recording, see "Video/photo record menu items."  
    ➡ pages 61~82
  - If the power cable/battery is disconnected or recording is disabled during recording, the system is switched to the data recovery mode. While data is being recovered, no other function is enabled.
  - The brightness of the LCD screen can be adjusted in the menu options. Adjusting the LCD screen does not affect the image being recorded. ➡ page 89
  - The menu setting tabs shown on the LCD screen do not affect the image being recorded.
-

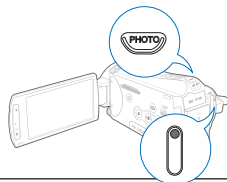
# basic recording

## CAPTURING PHOTOS DURING VIDEO RECORDING

You can capture photos at the video STBY mode or during video recording with the touch of a button. It is convenient to record a video and photo at the same time without switching modes.

### PRECHECK!

- Insert a memory card. ➔page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➔page 31
- Select the Video record (📹) mode by pressing the **MODE** button. ➔page 27



### To capture photos during video recording

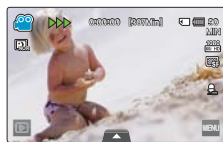
1. Press the **Recording start/stop** button.
  - The recording (●) indicator will display and recording will start.
2. Aim the camcorder at the scene you want, then press the **PHOTO** button.
  - When the (▶▶▶) indicator disappears, the photo image is recorded without a shutter sound.
  - Video keeps recording, even while photos are taken.
3. To stop recording, press the **Recording start/stop** button again.



### To capture photos in video standby mode

Align the subject in the frame in video standby mode, then press the **PHOTO** button.

- When the (▶▶▶) indicator appears and you hear a shutter sound, the photo image is recorded.



- **You cannot capture photos under the following condition:**
  - During a time lapse recording.
  - During slow motion recording.
- The flash is not available while the camcorder is capturing photos in video record mode.
- The resolution of the captured photos depends on the resolution of the video as follows:

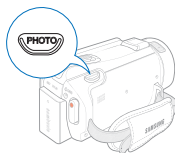
Video resolution	Resolution of captured photo
1080/60i (XF), 1080/60i (SF), 1080/60i (F), 1080/30p	1920x1080
720/60p	
480/60p	

# RECORDING PHOTOS

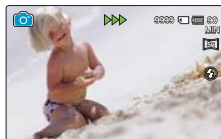
You can take photos and store them in the storage media. Set the desired resolution before recording. ➡ page 35

## PRECHECK!

- Insert a memory card. ➡ page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➡ page 31
- Select the Photo record (📷) mode by pressing the **MODE** button. ➡ page 27



1. Select a subject to record.
  - Adjust the LCD panel to the best angle for recording.
  - Use the **Zoom** lever or **Zoom** button to adjust the size of the subject. ➡ page 44
2. Adjust the subject at the center of the LCD screen, and half-press the **PHOTO** button.
  - Your camcorder adjusts to the ideal aperture and focus automatically (if “**Aperture**” and “**Focus**” are set to “**Auto**” ➡ pages 66, 70).
  - When the subject is in focus, the (●) indicator appears green. If it appears red, readjust the focus.
3. Fully press the **PHOTO** button.
  - The shutter sound is heard (when “**Shutter Sound: On**” is set), and the photo is recorded.



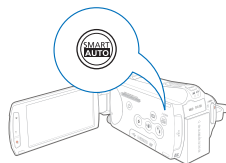
- Recordable number of photos varies depending on the photo resolution. ➡ page 35
- Audio is not recorded when you take photos.
- If focusing is difficult, use the manual focus or the Magic Touch function. ➡ pages 70, 72
- Do not turn off the camcorder or remove the memory card when taking photos as it may damage the storage media or data.
- Adjust the brightness of the LCD screen using menu items. Adjusting the brightness does not affect the recorded image. ➡ page 89
- For on-screen display information, see page 17.
- For advanced recording, see pages 61~82
- Photo files conform to the DCF (Design rule for Camera File system) standard, established by JEITA (Japan Electronics and Information Technology Industries Association.)

# basic recording

## RECORDING WITH EASE FOR BEGINNERS (SMART AUTO)

User-friendly SMART AUTO optimizes your camcorder to the recording conditions automatically, providing beginners with the best performance.

1. Press the **SMART AUTO** button.
  - Smart Auto (📷/📷) and Anti-shake (📷) indicators appear on the LCD screen.
  - In the photo recording mode, the smart flash (📷) icon appears.
2. Align your subject in the frame.
  - The camcorder automatically detects the scene (Landscape, etc.) and adjusts the camcorder settings accordingly.
  - The appropriate scene icon appears on the LCD screen.



	Appears when recording at night. (Night)		Appears when taking photos using close-up. (Macro)
	Appears when recording people outdoors at night. (Night Portrait)		Appears when taking photos of clear skies. (Blue sky)
	Appears when recording images of landscapes with backlighting. (Backlight)		Appears when taking photos of forested areas. (Natural green)
	Appears when recording people under backlight condition. (Backlight Portrait)		Appears when taking photos of sunsets. (Sunset)
	Appears when recording people. (Portrait)		Appears when the camcorder and subject are stationary for a while. (Tripod)
	Appears when recording a very bright scene. (White)		Appears when taking photos of actively moving subjects. (Action)
	Appears when recording an outdoor scene. (Landscape)		



<Appears when recording at night>

3. Press the **Recording start/stop** button or **PHOTO** button. ➡ pages 38, 41
4. To cancel Smart Auto mode, press the **SMART AUTO** button again.



### Buttons unavailable during Smart Auto operation:

- Menu (📷) tab, Quick menu (📷) tab, etc. Most settings are automatically adjusted in Smart Auto mode. To set or adjust functions on your own, release the Smart Auto mode first.
- When the camcorder fails to recognize the recording situations, it records in the basic setting (📷/📷).
- The camcorder may not select the correct scene depending on shooting conditions, such as camcorder shake, lighting, and distance to the subject.
- The camcorder recognizes a night scene only when you are taking photos with the flash off.
- The camcorder may not detect the portrait mode depending on the orientation or the brightness of faces.
- Tripod (📷) mode is detected only when you are recording scenes or portraits at night.
- The Action (📷) mode is available under most conditions, except for scenes and portraits at night.
- Tripod (📷) mode may not be recognized depending on the subject's movement even if you are using a tripod.
- When recording more than one scene at the same time, Smart Auto prioritizes scenes in the following order:
  - a) If White and Portrait can be applied at the same time, then Portrait is selected and the corresponding icon appears.
  - b) If White and Backlight can be applied at the same time, then Backlight is selected and the corresponding icon appears.



# CAPTURING PHOTOS WHILE PLAYING BACK VIDEOS

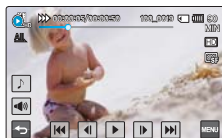
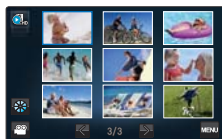
You can capture photos during video playback.

## PRECHECK!

Touch the Play (▶) tab on the LCD screen to select the Video play (▶/▶) mode. ➡ page 49



- Recorded videos appear in a thumbnail index view.
  - Touch the left (◀) / right (▶) tab to move to the previous/next page.
- Touch the video clip you want.
  - The selected video is played.
- Press the **PHOTO** button halfway at the scene you want to capture.
  - The playback screen is paused.
- Press the **PHOTO** button fully down.
  - The captured still image is recorded in JPEG format.
- When the photo is recorded on the storage media, touch the Return (◀) tab to view the thumbnail index.
  - Touch the Photo (📷) tab to view the recorded photos. ➡ page 53



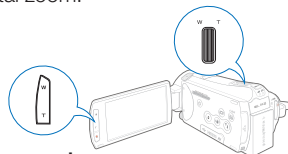
The resolution of the captured photos depends on the resolution of the video as follows:

Video resolution	Resolution of captured photo
1080/60i (XF), 1080/60i (SF), 1080/60i (F), 1080/30p	1920x1080
720/60p	1280x720
480/60p	720x408
Slow Motion: [SD]300Frame/Sec, [SD]600Frame/Sec	368x208, 192x112

# basic recording

## ZOOMING

Use the zoom function for close-up or wide-angle recording. This camcorder allows you to record using 15x optical power zoom, 18x Intelli-zoom, and digital zoom.



### To zoom in

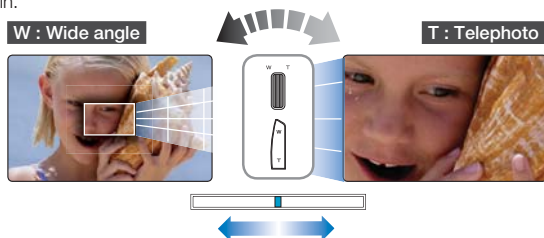
Press the **T** (zoom) button on the LCD panel or slide the zoom lever towards **T** (telephoto).

- The distant subject is gradually magnified and can be recorded.
- The highest zoom magnification ratio is 18x in the normal zoom-in.

### To zoom out

Press the **W** (zoom) button on the LCD panel or slide the zoom lever towards **W** (wide angle).

- The subject moves further away.
- The smallest zoom ratio is the subject's original size in the zoom-out.



#### Zoom speed

When using the zoom function, you can decrease zoom speed by slowly moving the Zoom (W/T) lever. Moving it faster increases the zoom speed. However, you cannot adjust the zoom speed when using the Zoom (W/T) button on the LCD panel.

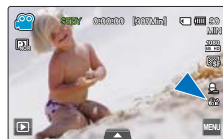
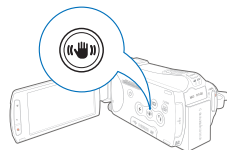


- Using the optical zoom does not degrade the image quality and clarity.
- Use the digital zoom when you want to zoom beyond the optical zoom range (Video recording mode only). ➤ page 80
- Focusing may become unstable when you record with a fast zoom or zoom into a subject standing too far away. If this occurs, use the manual focus function. ➤ page 70
- The minimum possible distance between camcorder and subject while maintaining sharp focus is about 1cm (about 0.4 inches) for wide angle and about 50cm (about 19.7 inches) for telephoto. If you want to shoot the object close to the lens at a wide angle, use the Tele Macro function. ➤ page 76
- When using the zoom function while holding the camcorder in your hand, use Anti-shake (OIS) for stable recording. ➤ page 45
- Frequent use of the zoom function consumes more power.
- The camcorder can record the sound of the zoom mechanism.

# SETTING THE ANTI-SHAKE (OIS: OPTICAL IMAGE STABILIZER)

Use the Anti-shake (OIS: Optical Image Stabilizer) function to compensate for unstable images caused by shaking movements when holding the camcorder.

Press the **Anti-shake (OIS)** (  ) button to toggle the Anti-shake (OIS) mode between On and Off.



## Use the Anti-Shake function in the following cases

- When recording while walking or when recording in a moving car.
- When recording with the zoom function.
- When recording subjects of a small size.



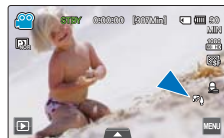
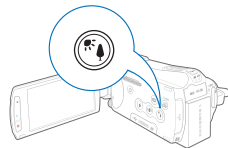
- When turned on, the Smart Auto mode automatically sets Anti-shake (OIS) to On.
- Gross camcorder shake may not be entirely corrected even if Anti-shake is set to On. Firmly hold the camcorder with both hands.
- When this function is set to On, the actual movement of the subject and the movement displayed on the screen may be slightly different.
- When recording in dark lighting at high magnification while this function is set to On, after-images may stand out. In this case, we recommend using a tripod (not supplied) and turning Anti-shake to Off.

# basic recording

## USING BACK LIGHT COMPENSATION MODE

When a subject is lit from behind, this function will compensate for the lighting so that the subject is not too dark.

Press the **Back light** (☼) button to toggle the back light mode between On and Off.



<Video record mode>

### Q Back lighting causes the the subject to be darker than the background

It typically occurs when:

- The subject is in front of a window.
- The person you want to record is wearing white or shiny clothes and is placed against a bright background. The person's face is too dark to distinguish his/her features.
- The subject is outdoors and the background is overcast.
- The light sources are too bright.
- The subject is in front of a snowy background.



# USING THE FLASH

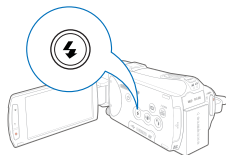
Using the flash, you can capture clear and bright photos even in shadows, at night, or indoors which need more light.

## PRECHECK!

Select the Photo record (📷) mode by pressing the **MODE** button. ➡ page 27

Press the **Flash** (⚡) button repeatedly to select the flash mode you want.

- The selected flash mode is displayed.



Display	Meaning
	Disables the flash.
	Flash works automatically when the subject or background is dark.
	If the object or background is dark, the camcorder flash operates automatically and flashes just before the picture is taken (pre-flash). This helps reduce the incidence of red eye.
	Flash always works regardless of brightness. Light intensity is adjusted automatically.
	Flash works when the shutter speed is slow. <ul style="list-style-type: none"><li>• It is suitable for use around sundown or in dark places.</li><li>• We recommend you use a tripod (purchase separately) to prevent camcorder shake.</li></ul>
	In Smart Auto mode, the smart flash icon appears automatically. According to the brightness for subject and background, the flash automatically works.



- Do not use the flash with a hand covered on it.
- Do not use a flash too close to the eyes of a person.



- Select a flash mode and press the **PHOTO** button. The camcorder performs a pre-flash to make sure the recording conditions (distance from objects and amount of light) are acceptable. Do not move until the second flash occurs.
- As using the flash consumes more power, the more you use the flash, the shorter the battery time.
- The flash usually recharges within 5 seconds. However, it may take longer to charge the flash when the battery is low.
- You can capture bright and clear photos within the recordable range when you use the flash.
- When you record a strongly reflecting object or an object out of the recordable range, the camcorder can not capture bright and clear images.
- When you use the flash in a dark place, foreign substances such as dust can be reflected in the light from the flash, so that blur, white dots, round dots, or white circles may appear on the images. This is not a malfunction of the camcorder.
- You cannot use a flash under the following conditions:
  - when using the continuous shooting function
  - when capturing photos in the video record mode.

# basic recording

## USING THE MANUAL DIAL

You can assign one frequently used function (focus, aperture, shutter speed, or exposure) to the Manual Dial and then use the Manual Dial to set that function during recording.

### PRECHECK!

Set the manual dial to the frequently used function (Focus, Aperture, Shutter, Exposure Value). ➤page 103



### Ex) The manual dial set to Focus

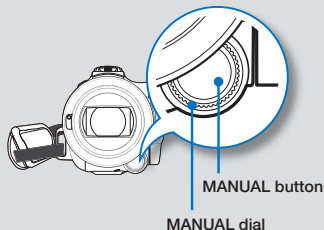
1. Press the **MANUAL** button.
  - Press the **MANUAL** button to toggle focus between Auto and Manual.
2. Adjust the focus turning the **MANUAL** dial.
  - You can adjust aperture, shutter, or exposure value in the same way, after you have assigned the one function to the manual dial. ➤page 103



### Q Functions you can assign to the manual dial

You can assign the following functions to the manual dial. Refer to the following pages for the details of each function.

- Focus ➤page 70
- Aperture ➤page 66
- Shutter ➤page 67
- EV ➤page 68



- You can assign only one function at a time to the manual dial. ➤page 103
- Even if a function would normally not be available because a second function is set to a value that would prevent it from functioning, you can still assign it to and set it with the manual dial, though not in the menu.  
For example: The Aperture function can not be used if you set the shutter to Manual in the menu. However, if you assign the aperture function to the Manual Dial, the camcorder sets the shutter to Auto automatically and you can use the Manual Dial to set the aperture.

# basic playback

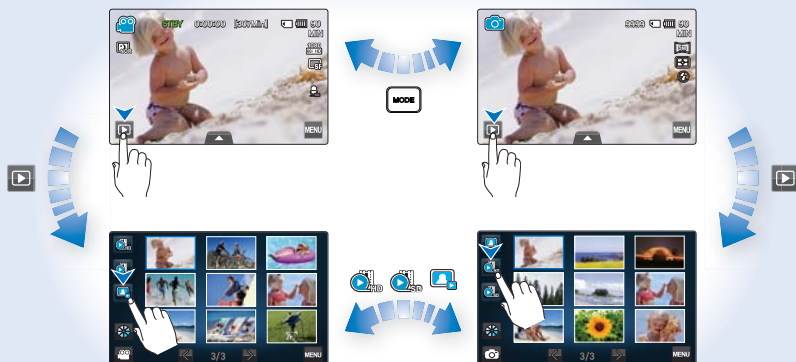
## CHANGING THE PLAYBACK MODE

- You can switch the record mode into the play mode by touching the Play (▶) tab on the LCD screen.
- Recorded images are displayed in the thumbnail display and the most recently recorded file is highlighted.
- The camcorder will display the video or photo thumbnails, depending on which you recorded last.
- You can choose the thumbnail view display options by touching the HD (📺), SD (📷), or photo (📷) tab on the LCD screen.



### Understanding how to change the operation modes

You can easily change the operation modes by touching the LCD screen or using the buttons as shown in the following figures:



### To change thumbnail display type

You can choose the thumbnail display type you want by touching the 3x3 (📷) tab or the date (📅) tab on the LCD screen, and then pressing the **Zoom (W/T)** lever.



# basic playback

## PLAYING BACK VIDEOS

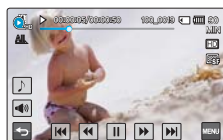
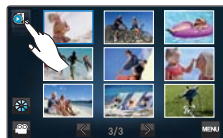
You can preview recorded videos in a thumbnail index view, find your desired video quickly, and playback directly.

### PRECHECK!

- Insert a memory card. ➔page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➔page 31
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ➔page 49

## To play back videos

1. Touch the HD (📺) or SD (📺) tab.
  - Video thumbnails corresponding to the selected video resolution appear on the screen.
  - To change the current thumbnail page, touch the left (⏮) or right (⏭) tab.
  - To change the thumbnail display type, touch the 3x3 (3x3) tab, date (📅) tab on the LCD screen or use the **Zoom** (W/T) lever.
  - If you select the thumbnail display by the date (📅), you can sort videos by specific dates. ➔page 49
2. Touch the desired video clip.
  - The selected video is played and playback control tabs appear briefly. They reappear when touching anywhere on the screen.
  - You can set playback settings using the **"Play Option"** menu. ➔page 83
  - To turn on the background music, touch the Background music (🎵) tab. ➔page 83
  - To stop playback and return to the thumbnails, touch the Return (⏮) tab.



### Using the Touch Screen

Drag the image left or right on the LCD screen to go to the previous or next file.



Touch a point or drag the pointer left or right in the playback progress bar on the LCD screen to move directly to the section of the video you want.







Do not power off or eject the memory card during photo playback. Doing so may damage the recorded data.

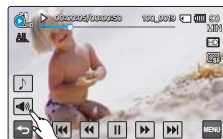


- It may take some time to start playback, depending on the size and quality of the selected video.
- The camcorder may not play the following video files:
  - A video whose file format is not supported on the camcorder
- You can use various play options during the video playback. ➔ page 52
- The recorded videos can be played on a TV or PC. ➔ pages 122~125, 129~135
- If you touch the Menu (☰) tab during playback, play is paused and the menu screen appears.
- If you turn on the background music while playing a video, its audio is muted and the background music starts to play. At that moment, the video goes back and starts from the beginning.

## To adjust the volume during video playback

You can hear the sound through the built-in speaker of the camcorder while the video is playing back on the LCD screen.

1. Touch the Volume (🔊) tab on the LCD screen.
2. Adjust the volume by dragging the volume control dial toward the desired direction on the LCD screen.



The sound level is adjusted between "0~19." When the level is at "0," you cannot hear sound.

# basic playback

## Various playback operations

### Playback / Pause / Stop

- Playback and pause alternates when you touch the Play (▶) / Pause (⏸) tab during playback.
- Touch the Return (⏮) tab to stop playback and return to the thumbnail.

### Search playback

During playback, each touch of the Reverse search (⏮) / Forward search (⏭) tab increases the play speed:

- RPS (Reverse Playback Search)/FPS (Forward Playback Search) rate: x2 → x4 → x8 → x16 → x32 → x2

### Skip playback

Touch the Reverse skip (⏮) / Forward skip (⏭) tab during playback.

- Touching the Forward skip (⏭) tab plays the next video.
- Touching the Reverse skip (⏮) tab plays the beginning of the scene.  
If reverse skip (⏮) is touched within 3 seconds from the start of the file, the previous video is played.
- Place and hold your finger on the Reverse skip (⏮) / Forward skip (⏭) tab to search for a video quickly. When you lift off your finger, the selected video is played.

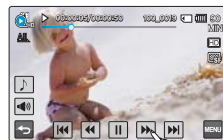
### Slow playback

When playback is paused, touching the Reverse slow (◀) / Forward slow (▶) tab reduces the playback speed:

- Reverse/forward playback slow rate: x1/2 → x1/4 → x1/8 → x1/2

### Frame by frame playback

- When playback is paused, touching the Reverse frame advance (◀) / Forward frame advance (▶) tab makes play go reverse or forward one frame at a time.



- Various playback operations are available using the same buttons on the remote control.
- Touch the Play (▶) tab to play back in normal speed.
- You can hear sound only when the playback is in normal speed.

# VIEWING PHOTOS

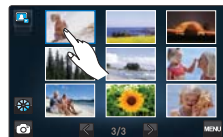
You can view recorded photos by using various playback functions.

## PRECHECK!

- Insert a memory card. ➔page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➔page 31
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ➔page 49

### 1. Touch the Photo (📷) tab.

- The thumbnail view appears.
- To change the current thumbnail page, touch the left (⏮) or right (⏭) tab.
- To change the thumbnail display type, touch the 3x3 (3x3) tab, date (📅) tab on the LCD screen or use the **Zoom** (W/T) lever.
- If you select the thumbnail display by the date (📅), you can sort photos by specific dates. ➔page 49



### 2. Touch your desired photo to display.

- The selected photo is displayed in full screen and playback control tabs appear briefly. They reappear when you touch anywhere on the screen.
- Touch previous image (⏮) / next image (⏭) tab to view the previous and next photo.
- Place and hold your finger on the previous image (⏮) / next image (⏭) tab to search for a photo quickly. When you lift off your finger, the selected photo is displayed.



### 3. To return to the thumbnails, touch the Return (⏮) tab.

## Using the Touch Screen

Drag the image left or right on the LCD screen to go to the previous or next file.



Do not power off or eject the memory card during photo playback. Doing so may damage the recorded data.



#### **Your camcorder may not playback the following photo files normally:**

- A photo with a file format not supported on this camcorder (One that does not conform to DCF standards).
- Loading time may vary depending on the size and quality of the selected photo.

# basic playback

## Viewing a slide show

You can view a photo slide show with background music.

Touch the Slide Show (🎞️) tab during photo playback.

- The (🖼️) indicator is displayed. The slide show starts from the current selected photo.
- All photos are played back continuously in the set slide show option. ➡ pages 87~88
- If you select the thumbnail display by date (📅), photos only taken on the corresponding date play back in a slide show.
- You can adjust the background music's volume level using the Volume (🔊) tab while playing back the slide show with music.
- To stop the slide show, touch the Return (⏮️) tab.



The slide show function is also available in the menu.  
➡ page 86

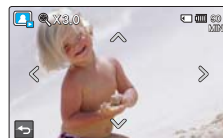


## Zooming during photo playback

You can magnify a playback image.

Touch the up (⬆️)/down (⬇️)/left (⬅️)/right (➡️) to select a specific magnified area to view.

1. Touch the desired photo.
  - The selected photo is displayed on the full screen.
2. Adjust the magnification with the **Zoom** (W/T) button or **Zoom** (W/T) lever.
  - Magnification starts from the center of the photo.
  - You can zoom in from x1.1 to x8.0.
  - While the playback zoom is in use, other images cannot be selected.
3. Touch the up (⬆️)/down (⬇️)/left (⬅️)/right (➡️) tab to view the area you want on the magnified photo.
4. To cancel, touch the Return (⏮️) tab.



Photos recorded on other devices or those edited on a PC cannot be magnified.

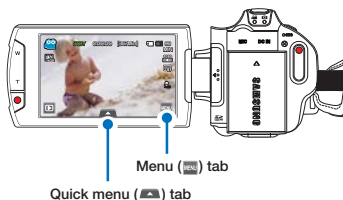
# using the menu items

## HANDLING MENUS AND QUICK MENUS

The instructions below are examples of how to access and use menu items using the Menu (MENU) tab and the Quick menu (Q) tab. When you access and use other menu items, use these examples as guides.

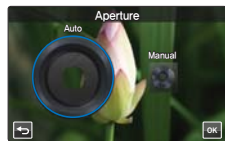
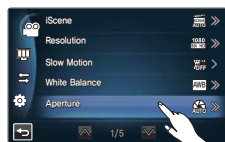
### PRECHECK!

- Open the LCD screen to turn on the camcorder.  
Your camcorder turns on automatically when you open the LCD screen.
- Select the record (CAMERA) mode by pressing the **MODE** button. ➡ page 27



## Using the Menu (MENU) tab



1. Touch the Menu (MENU) tab on the touch panel.
  - The menu screen appears.
  - To change the current page, touch the up (▲) /down (▼) tab.
2. Touch “Aperture.” (The Aperture function is used here as an example.)
3. Touch the desired option.
  - Set the values according to the selected item.
  - Drag toward the direction indicated on the LCD screen or touch the desired setting value.
  - Touch the (OK) tab to complete the setting. If you touch the Return (←) tab not the (OK) tab, the setting values are not applied and return to the previous values.
4. To exit the menu, touch the Return (←) tab.

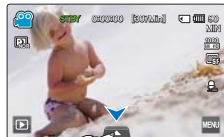


# using the menu items

## Using the Quick menu ( ) tab

Quick menu enables you to quickly access your favorite functions. You can easily select the desired menu with one-touch.

1. Touch the **Quick menu** tab on the LCD screen to see the available menu options.
  - The quick menu screen appears.
2. Touch “**Focus** (  ).” (The Focus function is used here as an example.)
3. Touch the desired option.
  - Adjust the setting values accordingly.
  - Touch the (  ) tab to complete the setting.



- When using the Menu or Quick menu items, some menu items can not be used at the same time, or may be grayed out. For more information, see Troubleshooting on page 148.
- For easy understanding, the menu setting procedures on this page are explained using the simplest methods. Menu setting methods can differ depending on the menu options you choose.

# MENU ITEMS

- Accessible items in the menus vary depending on the operating mode.
- For item operation details, go to the page number listed under Page in the table.

## Video/photo record menu items

● : available, X : not available

Operation mode Items	Video	Photo	Default value	Page
ISCENE	●	●	Auto	61
Resolution	●	●	1080/60i (SF) [5M] 2960x1664 (16:9)	62
Slow Motion	●	X	Off	63
White Balance	●	●	Auto	64
ISO	X	●	Auto	65
Aperture	●	●	Auto	66
Shutter	●	●	Auto	67
EV	●	●	0	68
Super C.Nite	●	X	Normal	69
Focus	●	●	Auto	70
Face Detection	●	●	Off	71
Magic Touch	X	●	Off	72
Metering	X	●	Multi	73
xvYCC	●	X	Off	73
Digital Effect	●	●	Off	74
Fader	●	X	Off	75
Tele Macro	●	●	Off	76
Cont. Shot	X	●	Off	77
Wind Cut	●	X	Off	77
Zoom MIC	●	X	Off	78
Voice Reduction	●	X	Off	79
MIC Level	●	X	Medium	79
Digital Zoom	●	X	Off	80
Self Timer	●	●	Off	80
Time Lapse REC	●	X	Off	81

# using the menu items

## Video/photo playback menu items

● : available, X : not available

Items	Operation mode	Video		Photo		Default value	Page
		Thumbnail	Single	Thumbnail	Single		
Play Option		●	●	X	X	Play All	83
Background Music		●	●	X	X	Random	83
Highlight		●	●	X	X	-	84
Story-Board Print		●	●	X	X	-	86
Delete		●	●	●	●	-	110
Protect		●	●	●	●	Off (Single)	109
Copy *		●	●	●	●	-	111
Edit	Partial Delete	●	●	X	X	-	106
	Divide	●	●	X	X	-	107
	Combine **	●	X	X	X	-	108
Slide Show Start		X	X	●	●	-	86
Slide Show Music		X	X	●	●	Random	87
Slide Show Interval		X	X	●	●	1 Sec	87
Slide Show Effect		X	X	●	●	On	88
File Info **		●	●	●	●	-	88



- Items marked with \* are available only with HM-X-S15/S16 models.
- Items marked with \*\* are not displayed when the recording thumbnail display is set to date (📅).

## Display setting menu items

Items	Default value	Page
LCD Brightness	5	89
LCD Enhancer	Off	89
Guideline	Off	90
Date/Time Display	Off	90
TV Type	16:9	91
TV Display	On	91
HDMI TV Out	1080i	92
Auto LCD Off	On	92



## Connectivity setting menu items

Items	Default value	Page
Remote	On	93
PC Software	On	93
USB Connect	Mass Storage	94
TV Connect Guide	-	94
Anynet+ (HDMI-CEC)	On	95

## Other setting menu items

Items	Default value	Page
Storage Type *	Internal Memory	96
Storage Info	-	96
Format	-	97
File No.	Series	97
Time Zone	Home	98
Date/Time Set	JAN/01/2010 12:00AM (Summer Time: Off)	99
Date Type	JAN/01/2010	99
Time Type	12 Hr	99
Beep Sound	On	100
Shutter Sound	On	100
Auto Power Off	5Min	101
Quick On STBY	5Min	102
Manual Dial	Focus	103
REC Lamp	On	103
Default Set	-	104
Language	English	104
Demo	On	105



- Menu options and default values may be changed without prior notice.
- Some grey colored menu options cannot be selected. ➡ page 148
- Items marked with \* are available only with HMX-S15/S16 models.
- The date and time format may change depending on the language you selected.

# using the menu items

## QUICK MENU ITEMS

- Quick menu is available only in the video and photo record mode.
- Available menu items may depend on the operation mode you selected.
- For item operation details, go to the page number listed under Page in the table.

## Video/photo recording menu items

● : available, X : not available

Items	Video	Photo	Default value	Page
iSCENE	●	●	Auto	61
Resolution	●	●	1080/60i (SF) [5M] 2960x1664 (16:9)	62
White Balance	●	●	Auto	64
Aperture	●	●	Auto	66
Shutter	●	●	Auto	67
EV	●	●	0	68
Focus	●	●	Auto	70
Digital Effect	●	●	Off	74

# advanced recording

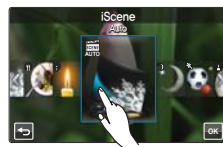
## iSCENE

Using the iScene function, you can select a setting that matches the scene you are shooting (Sports, Portrait, etc.). Based on your selection, the camcorder sets the appropriate shutter speed and aperture automatically for optimal recording.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “iSCENE” → then the desired submenu item.
  - You can move to the desired item by touching the < / > tab.
2. Touch the (OK) tab or selected submenu item again to complete the setting.
3. To exit the menu, touch the Return (⏮) tab.



### Submenu items

- **Auto**: Under normal conditions, recording naturally.
- **Night** (🌙): Recording in a dark place or at night.
- **Sports** (🏈): Recording people or objects in motion.
- **Portrait** (👤): Recording skin color naturally.
- **Spotlight** (🔦): When strong light strikes the object.
- **Beach/Show** (🌊): Where the reflection of light is intense such as a snowfield or beach.
- **Food** (🍴): To make food more colorful.
- **Candle Light** (🕯): Recording in the soft glow of candlelight.



When you specify “**Aperture:Manual**” or “**Shutter:Manual**,” the iSCENE mode is cancelled.  
(Manual Aperture/Manual Shutter priority)

# advanced recording

## Resolution

You can select the resolution of video to be recorded on storage media.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

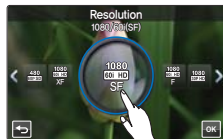
1. Touch the Menu (MENU) tab → “**Resolution**” → then the desired submenu item.
  - You can move to the desired item by touching the < / > tab.
2. Touch the (OK) tab or selected submenu item again to complete the setting.
3. To exit the menu, touch the Return (⏮) tab.

### Submenu items (Videos)

- **1080/60i (XF)** (📹/📷): Records in the HD (1920x1080/60i) format and at the extreme fine image quality.
- **1080/60i(SF)** (📹/📷): Records in the HD (1920x1080/60i) format and at the super fine image quality.
- **1080/60i(F)** (📹/📷): Records in the HD (1920x1080/60i) format and at the fine image quality.
- **1080/30p** (📹/📷): Records in the HD (1920x1080/30p) format and at the super fine image quality.
- **720/60p** (📹/📷): Records in the HD (1280x720/60p) format and at the super fine image quality.
- **480/60p** (📹/📷): Records in the SD (720x480/60p) format and at the super fine image quality.

### Submenu items (Photos)

- **[10M]4224x2376 (16:9)** (📷): Records in 16:9 aspect ratio and the 4224x2376 resolution. The camcorder takes photos at 5 mega pixels. When you set the resolution to 10M, the camcorder up-scales the photos you take to 10 mega pixels.
- **[5M]2960x1664 (16:9)** (📷): Records in 16:9 aspect ratio and the 2960x1664 resolution.
- **[3M]2224x1664 (4:3)** (📷): Records in 4:3 aspect ratio and the 2224x1664 resolution.
- **[2M]1920x1080 (16:9)** (📷): Records in 16:9 aspect ratio and the 1920x1080 resolution.
- **[VGA]640x480 (VGA)** (📷): Records in the VGA 640x480 format.



<Setting video resolution>



<Setting photo resolution>



- “60i” indicates the camcorder will record in interlaced scan mode at 60 fields per second.
- “30/60p” indicates the camcorder will record in progressive scan mode at 30/60 frames per second.
- The amount of video and the number of photos you can record depend on the resolution you select. ➡ page 35
- Photos that are recorded on your camcorder may not playback properly on other digital devices that do not support these resolution.

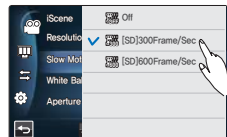
# Slow Motion

You can record a video in slow motion. It is useful to record a fast moving subject such as a bird flying in the sky or golf swing, etc. so you can analyze the movement in detail.

## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ↪page 27

1. Touch the Menu (☰) tab → “**Slow Motion**” → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off**: Disables the function.
- **[SD] 300Frames/Sec** (📹): Records 300 frames per second in the 368x208 resolution.
- **[SD] 600Frames/Sec** (📹): Records 600 frames per second in the 192x112 resolution.

## Comparison of normal speed video and slow motion video

**When Slow Motion is not set to On:** 60 frames per second are recorded.



**When Slow Motion is set to [SD] 300Frame/Sec:** 300 frames per second are recorded.



Video recording time (Per second) →

You can record video at a maximum of 600 frames per second.



- You can record a video in slow motion for a maximum of one minute. When you record in slow motion, the recording stops after 1 minute, but when you playback the same recording, it plays back for the following time:
  - 300 Frame/Sec: 5 minutes
  - 600 Frame/Sec: 10 minutes
- The camcorder does not record sound while recording in slow motion.
- The image quality of slow motion video may be lower than normal speed video.

# advanced recording

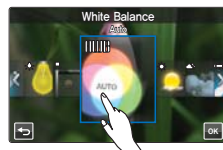
## White Balance

The color of your image depends on the type and quality of the light source. If you want the color of your image to be realistic, select an appropriate lighting condition to calibrate the white balance.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “**White Balance**” → then the desired submenu item.
  - You can move to the desired item by touching the ⏪ / ⏩ tab.
2. Touch the (OK) tab or selected submenu item again to complete the setting.
3. To exit the menu, touch the Return (⏮) tab.



### Submenu items

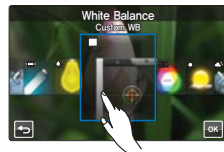
- **Auto**: Adjusts the white balance automatically according to the recording conditions.
- **Daylight** (☀): Use outdoors in normal daylight. Adjusts the white balance according to outdoor lighting conditions.
- **Cloudy** (☁): Use when recording in the shade or cloudy weather.
- **Fluorescent** (💡): Use when recording under white fluorescent lights.
- **Tungsten** (💡): Use when recording under halogen lamps and incandescent lights.
- **Custom WB** (🔧): Lets you manually adjust the white balance to match the light source or situation.

### 🔍 Understanding White Balance

White balance (WB) is the process of removing unrealistic color casts, so that objects which appear white are rendered white in your image. Proper white balance has to take into account the “color temperature” of a light source, which refers to the relative warmth or coolness of white light.

## To set the white balance manually

1. Touch the Menu (MENU) tab → “White Balance” → “Custom WB.”
  - The “(WB) Set White Balance” indicator is displayed.
2. Fill the screen with a white object, and touch the (OK) tab.
  - The white balance setting is stored.
3. To exit the menu, touch the Return (RETURN) tab.
  - The stored white balance setting will be applied the next time you record.



- When setting the white balance manually, the subject must be white, otherwise, your camcorder may not detect an appropriate setting value.
- The adjusted setting remains until you set the white balance again.
- During normal outdoor recording, setting to “Auto” may provide better results.
- Cancel the digital zoom function for clear and precise setting. ➡ page 80
- Reset the white balance if light conditions change.

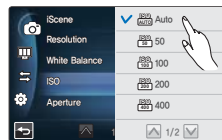
## ISO

ISO sensitivity function sets the light sensitivity of the camcorder’s image sensor. A higher ISO setting increases light sensitivity and allows the camcorder to select a higher shutter speed, thus reducing image-shake when recording without flash under dim conditions.

### PRECHECK!

Select the Photo record (CAMERA) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “ISO” → touch the desired submenu item.
2. To exit the menu, touch the Return (RETURN) tab.



### Submenu items

- **Auto:** Sets Aperture to Auto.
- **50 (50):** Record in a bright place at low sensitivity.
- **100 (100):** Record in a normal situation at normal sensitivity.
- **200 (200):** Increases the shutter speed and minimizes noise in images recorded in a dim place.
- **400 (400)/800 (800)/1600 (1600)/2400 (2400):** Record in dim or dark places at high sensitivity. The recorded images may have noise.



High ISO values may cause noise in images.

# advanced recording

## Aperture

The aperture controls the amount of light reaching the image sensor. The camcorder adjusts the aperture automatically depending on the subject and recording conditions. You can also manually adjust the Aperture to your preference.

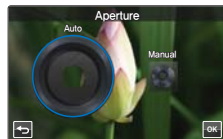
### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “**Aperture**” → then the desired submenu item.
2. Touch the (OK) tab to complete the setting.
3. To exit the menu, touch the Return (RETURN) tab.

#### Submenu items

- **Auto:** Sets the aperture value automatically.
- **Manual:** Drag the aperture dial toward the desired direction on the LCD screen to adjust the setting values.  
The setting values are as follows:  
F1.8, F2, F2.8, F3.3, F4, F5.6, F8, F11, F16, F22



### Q Understanding Aperture

The lower the aperture value, the wider the aperture. The wider the aperture, the more light reaches the image sensor. Adjusting the aperture value controls the amount of light reaching the image sensor. Typically, the camcorder adjusts the aperture value in the following cases:

- When shooting against the light or when the background is too bright.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark (for example, night scenery).
- You can also adjust the aperture manually.



- When you specify “**Aperture: Manual**,” the iSCENE mode is cancelled, “**Super C.Nite**” is set to “**Off**” automatically, and “**Shutter**” is set to “**Auto**” automatically. (Manual Aperture priority)
- Minimum available aperture values depend on zoom magnifications. (wide: 1.8, telephoto: 3.3)



# Shutter

The camcorder automatically sets the shutter speed depending on the scene's brightness. User high shutter speeds to record fast moving objects and low shutter speeds to record slow or stationary objects or objects in dimmer light.

## PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (☰) tab → **"Shutter"** → then the desired submenu item.
2. Touch the (OK) tab to complete the setting.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Auto:** The camcorder automatically sets the appropriate shutter speed value.
- **Manual:** Drag the shutter dial toward the desired direction on the LCD screen to adjust the setting values.  
The setting values are as follows:
  - Video: 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
  - Photo: 1/8, 1/15, 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000



- The image may not seem smooth when you set a high shutter speed.
- When recording with a shutter speed of 1/1000 or higher, make sure the sun is not directly shining into the lens.
- When you specify **"Shutter: Manual,"** the iSCENE mode is cancelled, **"Super C.Nite"** is set to **"Off"** automatically, and **"Aperture"** is set to **"Auto"** automatically. (Manual Shutter priority)

# advanced recording

## EV

Depending on the intensity of the ambient light, your videos and photos may be too bright or dark. In these cases, you can adjust the exposure to get a better videos and photos.

### PRECHECK!

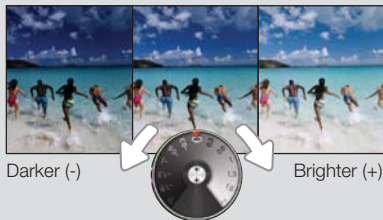
Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “EV.”
2. Drag the exposure value dial toward the desired direction on the LCD screen to adjust the setting values.
  - The setting values range from -2.0 to +2.0
3. Touch the (OK) tab to complete the setting.
4. To exit the menu, touch the Return (⏪) tab.



### Understanding EV (Exposure Value)

Exposure value is the total amount of light allowed to fall on the photographic medium (Image sensor) during the process of taking photos or videos.



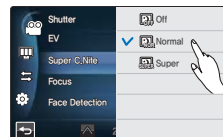
# Super C.Nite

The camcorder adjusts the shutter speed to get bright images without losing color when recording a slowly moving subject or in a dark place.

## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ↪page 27

1. Touch the Menu (☰) tab → **“Super C.Nite”** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off:** Disables the function.
- **Normal (📷):** The shutter opens for 1/60 of a second in the normal mode and automatically switches to open for 1/30 of a second in a dark place. Use this function to get bright images in a dark place.
- **Super (📷):** The shutter opens for 1/15 of a second regardless of surrounding conditions. Use this function to get bright images in a darker place.



When you set the Super C.Nite to Super, the video resolution changes automatically as listed below:

- 1080/60i, 1080/30p → Automatically set to 1080/30p
- 720/60p → Automatically set to 720/30p
- 480/60p → Automatically set to 480/30p

# advanced recording

## Focus

The camcorder usually focuses on a subject automatically (auto focus). When the camcorder is turned on, the Focus function will always be set to auto-focus. You can also set the Focus function to manual and focus on a subject manually.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (☰) tab → “Focus” → then the desired submenu item.
2. Touch the (OK) tab to complete the setting.
3. To exit the menu, touch the Return (⏪) tab.

#### Submenu items

- **Auto:** Focus is set automatically.
- **Manual (MF):** You can set the focus manually if the auto focus function has difficulty setting the focus. On the LCD screen, drag the focus dial in the desired direction to adjust the setting values.
- **Touch Point (TP):** You can set the focus by touching a specific point of the subject on the LCD screen. (Available only in video record mode. Magic Touch performs the same function for photos. ➡ page 72)

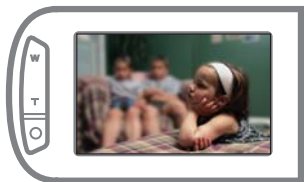


## Focusing manually during recording

This camcorder automatically focuses a subject from close-up to infinity. However, it may not always obtain the correct focus, depending on the recording conditions. If the camcorder does not focus correctly, use the manual focus mode.

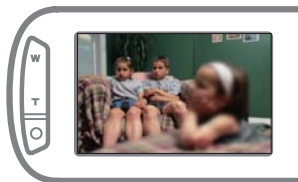
### Focusing in a nearer subject

Drag toward (🔍).



### Focusing on a further subject

Drag toward (👁).



#### Scenes to set focus manually for

- Scenes containing several objects, some close to the camcorder, others further away.
- Scenes with a person enveloped in fog or surrounded by snow.
- Very shiny or glossy surfaces such as a car.
- Scenes with people or objects moving constantly or quickly such as an athlete or a crowd.

## Using the touch point function

Using the Touch Point function, you can focus on a small section of the picture. To focus on the particular point, touch the point on the LCD screen. The Touch Point function is available only in the video record mode. For photos, use Magic Touch to perform the same function. ↪page 72




### To activate the touch point with a long touch



You can activate the touch point by pressing a particular point on the LCD screen for about 2 seconds.





- The Auto Focus (AF) setting is useful when you operate the zoom function because you might not be able to keep accurate focus manually after the zoom ratio has been changed.
- When the Touch Point function is enabled, you can touch the AF() tab on the LCD screen to set the "Focus" to "Auto."
- When you specify **"Focus: Manual or Touch Point,"** **"Face Detection"** is set to **"Off"** automatically.

## Face Detection

Your camcorder detects a subject's face and automatically adjusts the brightness and image quality to the optimal settings. Record faces more vividly.

### PRECHECK!

Select the record () mode by pressing the **MODE** button. ↪page 27

1. Touch the Menu () tab → **"Face Detection"** → then the desired submenu item.
2. To exit the menu, touch the Return () tab.



### Submenu items

- **Off:** Disables the function.
- **On()**: Detects faces automatically and sets the optimal recording values.

# advanced recording

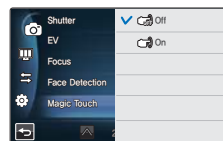
## Magic Touch

Simply touch the area on the LCD screen that you want to focus on when taking a photo. You can capture clearer photos as the Magic Touch function optimizes the focus and white balance for the point you touch.

### PRECHECK!

Select the Photo record (📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → **"Magic Touch"** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off:** Disables the function.
- **On (☑):** Touch the area on the LCD screen that you would like to focus on. Brightness will also be adjusted to the optimal value.

### Q To activate Magic Magic Touch with a long touch

- You can activate the Magic Touch function by pressing and holding a particular point on the LCD screen for about 2 seconds while in the record STBY mode.
- To capture the photo, press the **PHOTO** button after focusing or simply touch the point to focus and hold for 2 more seconds with a finger.



- To disable the Magic Touch function, touch the AF (AF) tab on the LCD screen, then **"Focus"** is then set to **"Auto."**
- When you specify **"Magic touch: On,"** **"Face Detection"** is set to **"Off"** automatically and **"Metering"** is set to **"Multi"** automatically.

# Metering

The metering mode refers to the way in which a camcorder measures the quantity of light. The brightness and lighting of your photos will vary depending on the metering mode you select.

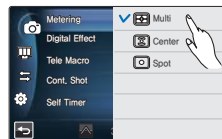
## PRECHECK!

Select the Photo record (📷) mode by pressing the **MODE** button. ➡page 27

1. Touch the Menu (☰) tab → “**Metering**” → then the desired submenu item.
2. To exit the menu, touch the Return (➡) tab.

### Submenu items

- **Multi** (☒): Meters the light by calculating the amount of light from different areas in the frame. Suitable for normal image capture.
- **Center** (☑): The amount of light metered on the center of the frame influences the whole screen. Suitable for capturing people as the subject occupies a large portion of the frame.
- **Spot** (⊠): Measures only the center of the screen and determines aperture. Use this function when there is a very large brightness difference between background and objects.



# xvYCC

Using the xvYCC function, you can record a video with an extended range of colors by expanding the camcorder's color space. You can record a video of multi-hued flowers in more vibrant color.

## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡page 27

1. Touch the Menu (☰) tab → “**xvYCC**” → then the desired submenu item.
2. To exit the menu, touch the Return (➡) tab.

### Submenu items

- **Off**: Disables the function.
- **On** (📺): Records images with more vivid and various colors.



You can enjoy the recorded xvYCC video under optimal conditions when playing it back on the TV that supports xvYCC. Refer to the TV's manual for details.

# advanced recording

## Digital Effect

Using the Digital Effect function gives your recording a creative look.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → **"Digital Effect"** → then the desired submenu item.
  - You can move to the desired item by touching the < / > tab.
2. Touch the (OK) tab or selected submenu item again to complete the setting.
3. To exit the menu, touch the Return (⏮) tab.



### Submenu items



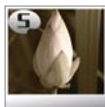
#### Off (🚫)

Without any Digital Effect, a normal, natural image is displayed during recording or playback.



#### Art (🎨)

This mode helps adjust for facial imperfections.



#### Sepia (📷)

This mode gives the image a reddish brown look.



#### Negative (🔄)

This mode reverses the colors, creating a negative image.



#### Emboss (🔍)

This mode creates a three-dimensional image.



#### Silhouette (👤)

This mode makes an object or scene with black outlines and a featureless interior.



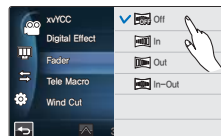
# Fader

You can give your recording a professional look by using special effects such as fade in at the beginning of a sequence or fade out at the end of a sequence.

## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ↪page 27

1. Touch the Menu (☰) tab → **"Fader"** → then the desired submenu item.
2. To exit the menu, touch the Return (⏮) tab.



### Submenu items

- **Off:** Disables the function
- **In (📹):** As soon as you start recording, the recording fades in.
- **Out (📹):** When the recording is done, the recording fades out.
- **In-Out (📹):** When you start or stop recording, the recording fades in or fades out accordingly.

## Recording a video with Fade effect

### Fade in

Press the **Recording start/stop** button when "Fader" is set to "In."

Recording starts with a dark screen, and then the image and sound are faded in.

### Fade out

Press the **Recording start/stop** button when "Fader" is set to "Out."

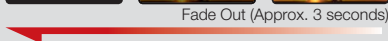
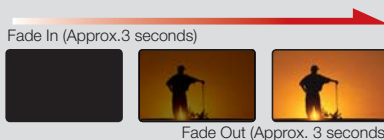
Recording stops as the image and sound are faded out.

### Fade in-out

Press the **Recording start/stop** button when "Fader" is set to "In-Out."

Recording starts with a dark screen, and then the image and sound are faded in.

Recording stops as the image and sound are faded out.



This function automatically turns off after being used one time. You must reset it to work again.

# advanced recording

## Tele Macro

Using the Tele Macro function, you can get close up images which are created by focusing on a small portion of a large object at a wide angle. It is useful to get close up images of flowers or insects etc.

### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → “**Tele Macro**” → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off:** Disables the function.
- **On (🔍):** You can focus on a small portion of a large object at a wide angle.



- When recording in Tele Macro mode, the focus speed may be lowered.
- Use a tripod (not supplied) to prevent hand shake in the Tele Macro mode.
- Avoid shadows when recording in the Tele Macro mode.
- As the distance to the subject decreases, the focusing area narrows.
- When you can not get proper focus, use the **Zoom (W/T)** button or **Zoom (W/T)** lever to adjust the focus.
- For best results, use the Tele Macro function between. 4 inches (1cm) and 19.5 inches (50cm) from your subject.

## Cont. Shot

This function allows you to capture photos rapidly, in succession to give you more photo-taking opportunities when recording moving subjects.

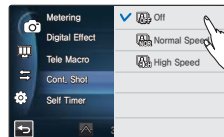
### PRECHECK!

Select the Photo record (📷) mode by pressing the **MODE** button. ➡page 27

1. Touch the Menu (☰) tab → “**Cont. Shot**” → then the desired submenu item.
2. To exit the menu, touch the Return (➡) tab.

#### Submenu items

- **Off**: Records only one photo image.
- **Normal Speed** (📷): You can take photos continuously while you press and hold the **PHOTO** button. The number of recordable photos depends on the photo's resolution and the memory space.
- **High Speed** (📷): Press the **PHOTO** button to capture 18 photos continuously over about 2 seconds.



- When an error occurs (internal memory full, etc.) during continuous shot, the recording stops and an error message is displayed.
- When “**Cont. Shot**” is set to “**High Speed**” the photo resolution is fixed to 1920x1080.
- When taking photos with the Magic Touch function, the continuous shot is not available even if “**Cont. Shot**” is set to On.

## Wind Cut

Using the Wind Cut function, you can reduce wind noise when recording sound using the microphone.

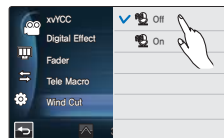
### PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡page 27

1. Touch the Menu (☰) tab → “**Wind Cut**” → then the desired submenu item.
2. To exit the menu, touch the Return (➡) tab.

#### Submenu items

- **Off**: Disables the function.
- **On** (🔊): Reduces wind noise when recording sound using the microphone.



Using the Wind Cut function also removes some low-frequency sound with the wind noise.

# advanced recording

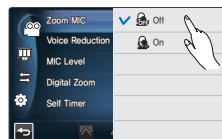
## Zoom MIC

Zoom Mic adjusts the audio setting in conjunction with the optical zoom setting so that the audio zooms in on the subject as the camcorder zooms in optically. For example, when you zoom in on a bird, the Zoom Mic function automatically zooms the sound in so that you can record the bird's chirping.

### PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (☰) tab → “**Zoom MIC**” → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off:** Disables the function.
- **On (🗣️):** The internal zoom microphone settings change in conjunction with the optical zoom setting.

### Using the built-in zoom microphone

Zoom Mic adjusts the settings of the internal zoom microphone in conjunction with changes in the optical zoom setting. You can record vivid audio because zooming-in increases the audio recording level of the internal zoom microphone.



- Zoom microphone is not available when you use an external microphone.
- When using the Zoom microphone or Voice Reduction function, do not close the LCD screen or cover the internal zoom microphone on the left of the camcorder.
- When you specify “**Zoom MIC: On**”, “**Voice Reduction**” is set to “**Off**” automatically.

# Voice Reduction

When you are recording a scene, you are usually close to the internal microphone. As a result, your voice on the video may be too loud. You can reduce the loudness of your voice and reduce the loudness of other noise occurring near the internal microphone by using the Voice Reduction function.

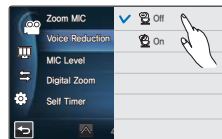
## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (☰) tab → **“Voice Reduction”** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.

### Submenu items

- **Off**: Disables the function.
- **On** (🔊): Reduces the volume of your voice in the recording.



This function is available only when you use the internal microphone. When you specify **“Voice Reduction: On”**, **“Zoom MIC”** is set to **“Off”** automatically.

# MIC Level

Using the MIC Level function, you can adjust the recorded audio volume.

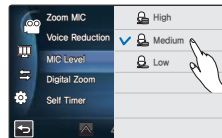
## PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (☰) tab → **“MIC Level”** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.

### Submenu items

- **High** (🔊): Adjust the MIC volume to the highest level.
- **Medium** (🔊): Adjust the MIC volume to the medium level.
- **Low** (🔊): Adjust the MIC volume to the lowest level.



# advanced recording

## Digital Zoom

The images optically magnified by the lens can be electronically magnified up to a maximum 180 times.

### PRECHECK!

Select the Video record (📹) mode by pressing the **MODE** button. ➡ page 27

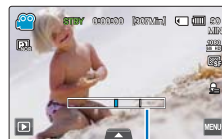
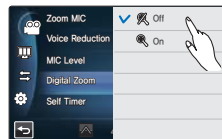
1. Touch the Menu (MENU) tab → **"Digital Zoom"** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.

#### Submenu items

- **Off**: Disables the digital zoom function. Only optical zoom and Intelli-zoom are available.
- **On**: Enables higher digital zoom magnification.



- The resolution and quality of the optically magnified image may deteriorate as the image is digitally magnified.
- You cannot magnify an image with the digital zoom while taking photos.
- When you specify **"Digital Zoom: On,"** **"Face Detection"** is set to **"Off"** automatically.



The right side of the bar shows the digital zooming zone. The zooming zone appears when you move the zoom lever.

## Self Timer

When the self-timer is enabled, there is a time delay of 2 or 10 seconds before recording starts. You can record or take photos of yourself.

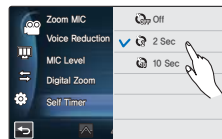
### PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Menu (MENU) tab → **"Self Timer"** → then the desired submenu item.
2. To exit the menu, touch the Return (⏪) tab.

#### Submenu items

- **Off**: Disables the function.
- **2 Sec** (🕒): Provides a delay of 2 seconds when you press the **Recording Start/Stop** or **PHOTO** button.
- **10 Sec** (🕒): Provides a delay of 10 seconds when you press the **Recording Start/Stop** or **PHOTO** button.



The self-timer is enabled only before recording starts and is turned off after being used once.

# Time Lapse REC

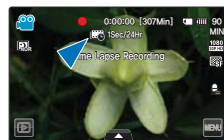
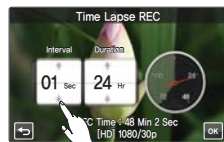
Using the Time Lapse feature, you can program your camcorder to create a time lapse video by recording a series of frames over a set period of time with a set time interval between each frame. The Time Lapse feature lets you create time lapse videos of blooming flowers and similar subjects.

## PRECHECK!

Select the Video record ( ) mode by pressing the **MODE** button. ➡ page 27

To record in the Time Lapse REC mode, you must set the recording interval between frames (Interval) and the total time the camcorder will record in Time Lapse (Duration), using the menu.

1. Touch the Menu ( ) tab → **"Time Lapse REC."**
2. Touch the **"Interval"** or **"Duration"** and drag up or down to set the value.
3. Touch the ( ) tab to complete the setting.
4. To exit the menu, touch the Return ( ) tab.
5. After setting the Time Lapse REC mode, press the **Recording start/stop** button.
  - The Time Lapse recording starts.
  - Time Lapse REC only supports the 1080/30p resolution and Super Fine quality.



### Submenu items

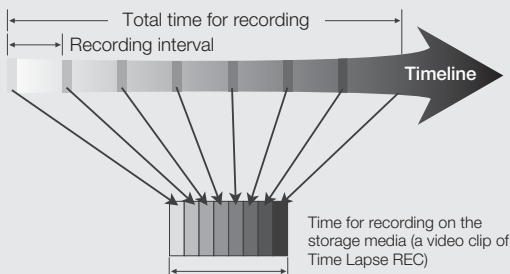
- **Off:** Disables the function.
- **On ( ):** Enables the interval recording function.

Images are automatically captured one frame at a time, at the specified interval or the duration, and stored in the storage media.

  - Interval: Image is captured one frame at time at the set interval.  
01 Sec → 03 Sec → 05 Sec → 10 Sec → 30 Sec
  - Duration: Total time from start to end of the recording.  
24 Hr → 48 Hr → 72 Hr → ∞ (Unlimited)

# advanced recording

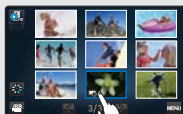
## Example of Time Lapse Recording



The Time Lapse Recording function records image frames at a predefined interval over the total recording time to produce a time-lapse video.

Time Lapse Recording is useful for filming the following subjects:

- Blooming flowers
- A bird building a nest
- Clouds rolling by in the sky



(The time lapse video file appears with the Time Lapse REC (📹) icon.)



- Time lapse recording mode is released once recording has been finished. To start another Time Lapse Recording, repeat steps 1-5.
- 30 captured images compose a video of 1 second length. Since the minimum length of a video to be saved by your camcorder is one second, the interval defines how long the time lapse recording should be. For example, if you set the interval to "30 Sec," time lapse recording should be set to at least 30 minutes to record a minimum video length of 2 seconds (60 images).
- Once time lapse recording finishes recording for the specified recording time, the camcorder switches to the standby mode.
- Press the **Recording start/stop** button if you want to stop time lapse recording.
- Audio is not recorded during time lapse recording.
- If a video recording fills up 1.8GB of storage memory, a new recording file is automatically started at that point.
- If the battery charge is exhausted during the time lapse recording, the camcorder saves the recording up to that point and switches to standby mode. After some time, it displays a warning message, then turns off automatically.
- If memory runs out during a Time Lapse REC, the camcorder switches to standby mode after saving what was recorded so far.
- We recommend using the AC power adaptor for a time lapse recording.



# advanced playback

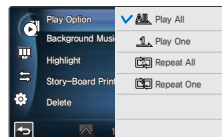
## Play Option

You can set a specific playback style according to your preference.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (▶) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Play Option” → then the desired submenu item.
2. To exit the menu, touch the (⏮) tab.



### Submenu items

- **Play All** (▶): Plays video clips in succession starting from the selected video to the last one, then returns to the thumbnail index view.
- **Play One** (▶): Plays the selected video only, and returns to the thumbnail view.
- **Repeat All** (▶): Plays all the video clips repeatedly until the Return (⏮) tab is touched.
- **Repeat One** (▶): Plays selected videos only repeatedly until the Return (⏮) tab is touched.

## Background Music

You can watch a video while listening to background music stored in the internal memory or in a memory card. Set the background music to your preference.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (▶) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Background Music.”
2. Drag up/down or touch the items for genre and instrument to set the background music.
3. To exit the menu, touch the (⏮) tab.



### Submenu items

- **Genre:** You can select the genre of the background music. (Random, Ballad, Jazz, Dance & Disco, Pop, Rock, R&B, Latin, Electronic, Instrumental)
- **Instrument:** You can select the instrument of the background music. (Random, Piano, Synthesizer, Guitar, Violin, Bell & Harp, Flute, Trumpet, Drum)



- While setting the background music, when the memory card has no sound sources, the genre supports Random, Ballad, Jazz, and Dance & Disco only, and the instrument is set to Random.
- If you change the genre, Instrument is set to “Random” automatically.
- Depending on music files stored in the memory card, the supported genres and instruments vary.
- For use of external sound sources, see page 150

# advanced playback

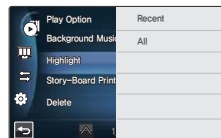
## Highlight

The Highlight function plays a portion of each recorded video at random.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (📺 / 📺) mode. ➡ page 49

1. Touch the Menu (☰) tab → **"Highlight"** → then the desired submenu item.
2. To exit the menu, touch the (➡) tab.



### Submenu items

- **Recent** (📺): Plays a portion of each video that you recorded within the last 24 hours.
- **All** (📺): Plays a portion of every video file.

### Highlight playback time to the duration of a video

Video Duration	Highlight playback time
Less than 5 sec.	Full playback
5 to 30 sec.	Plays 5 seconds at random.
30 sec. to 5 min.	Plays 5 seconds of each 30 second section at random.
5 min. to 10 min.	Plays 11 seconds of each 2 minute section at random.
Over 10 min.	Plays 15 seconds of each 3 minute section at random.



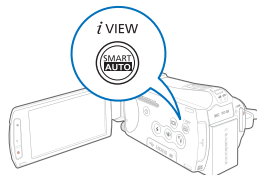
If you run the Highlight function in the date thumbnail display, Highlight plays random portions of all the files in the selected date set.

## iVIEW

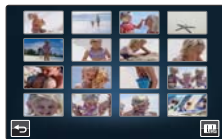
This function provides a preview of a storyboard to be printed, giving you a digest of a recorded video so you don't need to review the entire video.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (▶/▶) mode. ➡ page 49



1. Press the **iVIEW** button.
2. Touch the desired video.
  - 16 i-Frame images appear on the LCD screen.
  - The images from the video are selected at regular intervals, and comprise the preview of the storyboard to be printed.
  - When you select a thumbnail from the 16 i-Frame images, playback starts from the thumbnail.
3. To save the storyboard image on the storage media, touch the Story-board print (🖨️) tab → **"Yes."**
  - You can find the saved storyboard image in the photo thumbnail view. ➡ page 53



- **The iVIEW function may not show all 16 i-Frame thumbnails in the following case:**
  - The recorded video is too short. To extract 16 i-Frame thumbnails from a video, its recorded time should be longer than 16 seconds.
- The iVIEW function is not available in the following case.
  - The thumbnail is displayed by date (📅) in the 3x1 display mode. ➡ page 49

# advanced playback

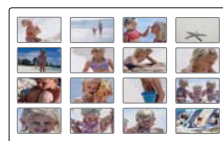
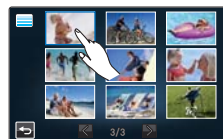
## Story-Board Print

Using Storyboard Printing, you can make a digest image of a video that summarizes its story. This function captures 16 still images at regular intervals from the video and makes one still image of 16 splits so that you can save it into the storage media. It presents a quick overview of your video, helping you to understand the whole narrative of the video.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (📺 / 📺) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Story-Board Print.”
2. Touch the desired video → “Yes.”
  - The printed storyboard images files appears on the LCD screen for a period of time.
  - The images are selected at regular intervals, and comprise a storyboard of one still image with 16-split still frames.
  - You can also find the saved storyboard image in the photo thumbnail view. ➡ page 53



- **The Story-Board Print function is not available under the following conditions:**
  - If the free space available on the storage medium is insufficient.
  - When the number of files reaches 9999.
- **The storyboard printing may not show all 16 i-Frame thumbnails in the following case:**
  - The recorded video is too short. To extract 16 i-Frame thumbnails from a video, its recorded time should be longer than 16 seconds.

## Slide Show Start

You can view a photo slide show with background music.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the photo (📷) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Slide Show Start.”
  - The (📷) indicator is displayed. The slide show starts from the current selected photo.
2. Touch the Return (⏮) to stop the slide show.



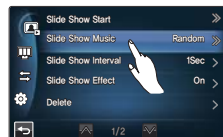
## Slide Show Music

You can watch a video while listening to background music stored in the internal memory or in a memory card. Set the background music to your preference.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Photo play (📷) mode. ➡ page 49

1. Touch the Menu (☰) tab → **"Slide Show Music"** → then the desired submenu item.
  - Touch the ◀ / ▶ tab or drag the LCD screen left or right to select the desired item.
2. Touch the (OK) tab or selected submenu item again to complete the setting.
3. To exit the menu, touch the (⏮) tab.



#### Submenu items

- **Off:** Turns off slide show background music.
- **Random:** Repeats 7 background music files in random order.
- **Music Shake:** You can select the genre or instrument of the background music.  
Drag up/down or touch the items for genre and instrument to set the background music.
  - **Genre:** You can select the genre of the background music. (Random, Ballad, Jazz, Dance & Disco, Pop, Rock, R&B, Latin, Electronic, Instrumental)
  - **Instrument:** You can select the instrument of the background music. (Random, Piano, Synthesizer, Guitar, Violin, Bell & Harp, Flute, Trumpet, Drum)
- **Mist, Muse, Fall, Dawn, Party, Drops, Trip:** 7 default background music files are stored in the internal memory. You can select one of them.



- While setting the music shake, when the memory card has no sound sources, the genre supports Random, Ballad, Jazz, and Dance & Disco only, and the instrument is set to Random.
- If you change the genre, Instrument is set to **"Random"** automatically.
- Depending on music files stored in the memory card, the supported genres and instruments vary.
- For use of external sound sources, see page 150

## Slide Show Interval

Set the interval between slide show transitions.

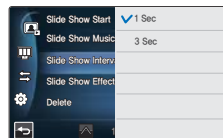
### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Photo play (📷) mode. ➡ page 49

1. Touch the Menu (☰) tab → **"Slide Show Interval"** → then the desired submenu item.
2. To exit the menu, touch the (⏮) tab.

#### Submenu items

- **1 Sec:** The next slide appears at 1 second intervals.
- **3 Sec:** The next slide appears at 3 second intervals.



# advanced playback

## Slide Show Effect

You can enjoy your slide show with various transition effects.

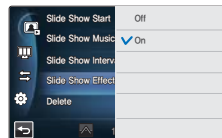
### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Photo play (📷) mode. ➡ page 49

1. Touch the Menu (☰) tab → **"Slide Show Effect"** → then the desired submenu item.
2. To exit the menu, touch the (⏮) tab.

#### Submenu items

- **Off:** Disables the function.
- **On:** Enables slide show's transition effect.



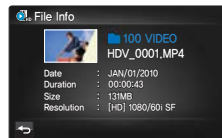
## File Info

You can see image information for each image.

### PRECHECK!

Select the Play (▶) tab on the LCD screen to select the Video play (📺) or Photo play (📷) mode. ➡ page 49

1. Touch the Menu (☰) tab → **"File Info."**
2. Touch the desired file to view the file information.
  - The information of the selected file appears.
3. To exit the menu, touch the Return (⏮) tab.



- You can also operate this function in the full and single image display mode.
- When thumbnails are displayed in the data (📷) 1x1, touch the information (📷) tab to display the file information.



# system setting

## LCD Brightness

This camcorder's LCD brightness is optimized at the factory. However, you can adjust the LCD brightness according to the ambient environment.

1. Touch the Menu (MENU) tab → Display setting (LCD) → “LCD Brightness.”
2. Drag the control bar to left or right to adjust the setting values.
  - You can set values for LCD brightness between 0 and 10.
3. Touch the (OK) tab to complete the setting.
4. To exit the menu, touch the Return (RETURN) tab.

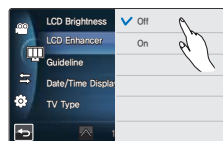


- If the surrounding is too bright, adjust the brightness of the LCD screen.
- Adjusting the LCD screen does not affect the image being recorded.

## LCD Enhancer

You can view clear and detailed images on the LCD screen in bright, outdoor light.

1. Touch the Menu (MENU) tab → Display setting (LCD) → “LCD Enhancer.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (RETURN) tab.



### Submenu items

- **Off:** Disables the function.
- **On:** Enables the LCD enhancer.






Turning on the LCD Enhancer does not affect the video being recorded.




# system setting

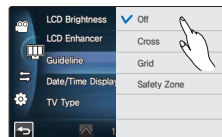
## Guideline

Guideline displays straight line patterns on the LCD screen that can help you set the image composition when recording images. The camcorder provides 3 types of guidelines.

1. Touch the Menu (  ) tab → Display setting (  ) → “Guideline.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (  ) tab.

### Submenu items




- **Off**: Disables the function.
- **Cross** (  ): Placing the subject at the center cross point puts the subject in the middle of the frame.
- **Grid** (  ): For recording multiple subjects. Putting subjects at or near the grid cross points creates a balanced composition.
- **Safety Zone** (  ): Positioning subjects within the Safety Zone rectangle ensures they will be recorded.



- Positioning a subject at the cross point of a guideline provides a balanced composition.
- Guidelines are not recorded.

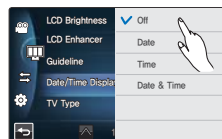
## Date/Time Display

You can set the Date/Time Display function so that the date and time appear on the LCD screen.

1. Touch the Menu (  ) tab → Display setting (  ) → “Date/Time Display.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (  ) tab.

### Submenu items

- **Off** : Current date/time information is not displayed.
- **Date** : Displays the current date.
- **Time** : Displays the current time.
- **Date & Time** : Displays the current date and time.



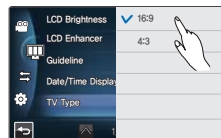
- The date/time will read “JAN/01/2010 12:00 AM” in the following case:
  - When the built-in rechargeable battery is depleted.
- The date and time displayed by this function depend on the “Date Type” and “Time Type” settings. ↪ page 99



# TV Type

You can set the screen ratio of the TV to connect with the camcorder.

1. Touch the Menu (MENU) tab → Display setting (LCD) → “TV Type.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (RETURN) tab.



## Submenu items

- **16:9**: Select when connecting to a wide screen TV (16:9).
- **4:3**: Select when connecting to a standard, analog TV (4:3).

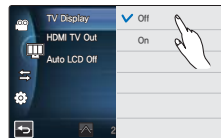


When you connect the camcorder to a TV using an HDMI cable, the camcorder disables this function and sets the TV output type automatically.

# TV Display

When your camcorder is connected to a TV, you can select whether the camcorder's On Screen Display (OSD) appears on the TV screen.

1. Touch the Menu (MENU) tab → Display setting (LCD) → “TV Display.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (RETURN) tab.



## Submenu items

- **Off** : The OSD (On Screen Display) menus appear only on the camcorder's LCD screen.
- **On** : The OSD menus appear on the LCD screen and the TV screen.



The menu screen, thumbnail display, and demo screens are shown on the TV even if you set “TV Display” to “Off.”

# system setting

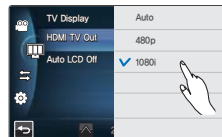
## HDMI TV Out

You can set the HDMI video output to match the input the TV you have connected supports.

1. Touch the Menu (MENU) tab → Display setting (⚙️) → “HDMI TV Out.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.

### Submenu items

- **Auto** : The TV displays at a maximum resolution. (up to 1920x1080p)
- **480p** : The recorded file is output in the 720x480p format. Use this setting only when connecting to a standard, analog TV which supports SD (Standard Definition) progressive scan (480p) signals through its HDMI jacks.
- **1080i** : The recorded file is output in the 1920x1080i format.



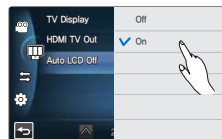
## Auto LCD Off

You can set the LCD screen to darken automatically when there is no user interaction for a period of time to decrease power consumption.

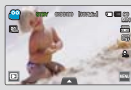
1. Touch the Menu (MENU) tab → Display setting (⚙️) → “Auto LCD Off.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.

### Submenu items

- **Off** : Disable the function.
- **On** : When the camcorder is idle for more than 2 minutes in the STBY mode, or for more than 5 minutes when recording a video, the power saving mode starts by dimming the LCD screen.



🔍 For example, LCD screen is automatically darkened.

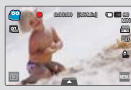


< In the STBY mode >

After 2 minutes

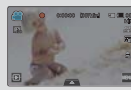


<LCD screen is darkened>



<During recording>

After 5 minutes



<LCD screen is darkened>

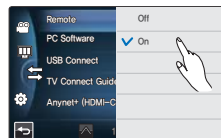


- When the “Auto LCD Off” function is enabled, you can press any button on the camcorder to return LCD brightness to normal.
- **Auto LCD Off is disabled in the following cases:**
  - When the camcorder has a cable connection. (USB cable, AC power adaptor, etc.)
  - While the Demo function is in operation.

## Remote

You can set the camcorder to operate with the supplied remote control.

1. Touch the Menu (MENU) tab → Connectivity setting ( ) → “Remote.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return ( ) tab.



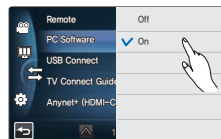
### Submenu items

- **Off:** The remote control can not operate the camcorder.
- **On:** The remote control can operate the camcorder.

## PC Software

If you set PC Software to On, you can use the built-in video and photo management software by connecting the USB cable between the camcorder and your PC. With this software, you can download stored video and photo images from the camcorder to your PC's hard disk and edit the video and photo files right on your PC's screen.

1. Touch the Menu (MENU) tab → Connectivity setting ( ) → “PC Software.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return ( ) tab.



### Submenu items

- **Off :** Disables the function.
- **On :** The built-in editing software launches when the camcorder is connected to the PC.



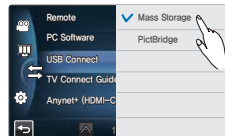
- **The PC Software function is not available in the following condition:**
  - If “USB Connect” is set to “PictBridge”
- To enable the PC Software function, set “USB Connect” to “Mass Storage,” in the system setting menu option. ➔ page 94
- The PC Software is compatible with the Windows OS's only.

# system setting

## USB Connect

You can transfer data to a PC or print photos directly by establishing the USB connection.

1. Touch the Menu (MENU) tab → Connectivity setting (⌘) → “USB Connect.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Mass Storage** : Connect to a PC to transfer videos or photos. ➡ page 134
- **PictBridge** : Connect to a PictBridge printer to print photos directly (when using the PictBridge function). ➡ page 127



Before connecting a USB cable, check whether the current USB mode is appropriate for the function you want to use.

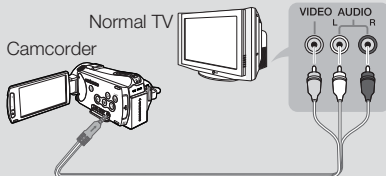
## TV Connect Guide

You can view the TV Connect Guide for instructions before you connect the camcorder to your TV set.

1. Touch the Menu (MENU) tab → Connectivity setting (⌘) → “TV Connect Guide.”
2. Touch the desired submenu item.
  - TV Connect Guide appears depending on the selected submenu items.
  - Refer to the TV Connect Guide when connecting your camcorder to other external devices.
3. To exit the menu, touch the Return (⏪) tab.



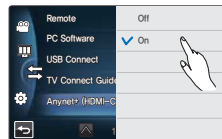
**To connect to a standard, analog TV with the supplied Audio/Video cable.**



## Anynet+ (HDMI-CEC)

This camcorder supports Anynet+. Anynet+ is an AV network system that lets you control all connected Samsung AV devices with a Samsung TV remote control that supports Anynet+.

1. Touch the Menu (MENU) tab → Connectivity setting ( ) → “Anynet+ (HDMI-CEC).”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (RETURN) tab.
  - When the camcorder is connected to a TV that supports Anynet+, you can operate some functions of the camcorder using the TV's remote control.



### Submenu items

- **Off:** Disables the function.
- **On:** The Anynet+ function is enabled.

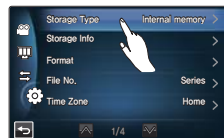


- If you turn on this camcorder when it is connected to an Anynet+ supporting TV by an HDMI cable, the TV automatically turns on. If you do not want to use the Anynet+ function, set the “**Anynet+ (HDMI-CEC)**” to “**Off**.”
- For details on the Anynet+ (HDMI-CEC) function, refer to the user manual of the Samsung Anynet+ supported TV.

# system setting

## Storage Type (HMX-S15/S16 only)

You can record videos and photos on the internal memory or a memory card. Select the desired storage media before you start recording or playback. ➡ page 31



## Storage Info

This function shows you the storage information of the selected storage media, such as used and available memory space, etc.

### PRECHECK!

Insert a memory card in the camcorder before viewing the storage information.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → **“Storage Info.”**
2. Touch the desired submenu item. (HMX-S15/S16 only)
  - Used memory space, available memory space, and the recordable time appears. Available space and recordable time depend on the video resolution you’ve selected.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items (HMX-S15/S16 only)

- **Internal Memory:** Displays the storage information of the internal memory.
- **Card:** Displays the storage information of the memory card.



When you format the internal memory or memory card, a minimum of 40 MB is assigned for system storage. System storage cannot store any video or photo data.

# Format

Use this function if you want to delete all files completely or to correct problems on the storage media.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → **"Format."**
2. Touch the desired submenu item. (HMX-S15/S16 only)
  - A message appears asking for your confirmation.
3. Touch the **"Yes"** → **"Yes."**
  - The format is executed with a message.
4. To exit the menu, touch the Return (⏮️) tab.



## Submenu item (HMX-S15/S16 only)

- **Internal Memory:** Formats the internal memory.
- **Card:** Formats the memory card.



- Do not remove the storage media or perform any other operation (such as turning off the power) during formatting. Also, be sure to use the provided AC power adapter, as the storage media may be corrupted if the battery becomes exhausted during formatting.
- If the storage media becomes corrupted, format it again.

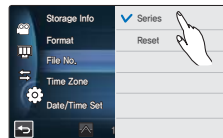


- **Do not format the storage media on a PC or other device.** Make sure to format the storage media on this camcorder.
- A memory card with the protection tab set to lock cannot be formatted. ➡ page 33
- If there is no storage media inserted, it can not be selected and its name will be dimmed on the menu.

# File No.

File names (numbers) are assigned to recorded images according to the numbering option you select.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → **"File No."**
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏮️) tab.



## Submenu items

- **Series :** Assigns file numbers in sequence even after you replace or format the storage media or delete all files. Each file is given a unique file number that allows convenient image management on a PC.
- **Reset :** Resets the file number to 0001 after you run format, delete all files, or insert a new memory card.



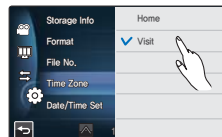
When you set **"File No."** to **"Series,"** each file is assigned a different number to avoid duplicating file names. This numbering scheme is very useful when you want to manage your files on a computer.

# system setting

## Time Zone

You can easily set the clock to the local time when using your camcorder while traveling.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Time Zone” → “Visit”
2. Select the time zone by touching the (▲)/(▼)/(◀)/(▶) tab on the LCD screen, then touch the (OK) tab.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Home** : The clock will be used according to your setting on the Date/Time Set menu. Select Home when using your camcorder for the first time or when returning the clock to your hometown date/time settings.
- **Visit** (📍) : When you visit a different time zone, the Visit function lets you use the local time without changing your hometown time setting. The clock is adjusted according to the time difference between your home and the location you are visiting.



## Date/Time Set

By setting the date and time, you can display the date and time of the recording during playback. ➡ page 29

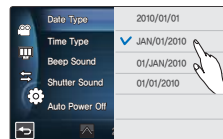




# Date Type

You can set the date display to one of four types.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Date Type.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



## Submenu items

- **2010/01/01** : The date is displayed in year/month (two-digit)/date order.
- **JAN/01/2010** : The date is displayed in month/date/year order.
- **01/JAN/2010** : The date is displayed in date/month/year order.
- **01/01/2010** : The date is displayed in date/month (two-digit)/year order.

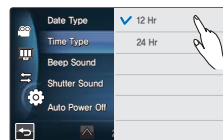


This function depends on the “Date/Time Display” setting. ↪ page 90

# Time Type

You can set the time display type to 12 hour or 24 hour.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Time Type.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



## Submenu items

- **12Hr** : Displays the time information in 12 hour units.
- **24Hr** : Displays the time information in 24 hour units.



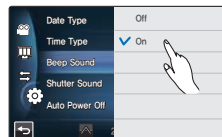
This function depends on the “Date/Time Display” setting.

# system setting

## Beep Sound

You can turn the beep that sounds when you touch tabs and buttons on the screen on or off.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Beep Sound”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off** : Disables the function.
- **On** : You will hear a beep sound when operating buttons or tabs such as the **Power** (⏻) button or **recording start/stop** button.



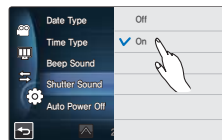
### Beep Sound is canceled in the following cases:

- During recording and playing
- When the camcorder has a cable connection. (Audio/Video cable, Mini HDMI cable, etc.)

## Shutter Sound

You can turn the shutter sound that plays when you press the **PHOTO** button on or off.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Shutter Sound”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Off** : Disables the function.
- **On** : You will hear the shutter sound when operating the **PHOTO** button.



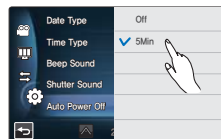
### The Shutter Sound is disabled under the following conditions:

- When you press the **PHOTO** button while recording video.
- When the camcorder has a cable connection. (Audio/Video cable, Mini HDMI cable, etc.)

# Auto Power Off

You can set your camcorder to turn off automatically if it is idle for 5 minutes without performing an operation. This function prevents unnecessary power consumption.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Auto Power Off”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



## Submenu items

- **Off** : Disable the function.
- **5 Min** : The camcorder turns off if idle for 5 minutes without performing an operation.






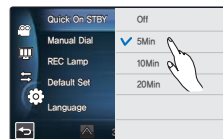
- **Auto Power Off does not work in the following situations:**
  - When the camcorder has a cable connection. (USB cable, AC power adaptor, etc.)
  - While the Quick On STBY function is in operation.
  - While the Demo function is in operation.
  - While the camcorder is recording, playing (except when in pause), or running a photo slide show.
- To operate the camcorder again, press the **Power** (⏻) button.

# system setting

## Quick On STBY

When you are going to record frequently for an extended time, use the Quick On STBY function. In standby mode, closing the LCD screen starts the Quick On STBY mode to reduce energy consumption. Once you are ready to record again, this function lets the camcorder come on quickly from the power saving mode.

1. Touch the Menu (  ) tab → Other setting (  ) → “Quick On STBY”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (  ) tab.
  - In the standby mode, closing the LCD screen will soon execute the Quick On STBY mode, and then the camcorder turns off after the selected time setting.



### Submenu items

- **Off** : In the standby mode, closing the LCD screen turns off the camcorder.
- **5 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode after a short period of time. After 5 minutes in Quick On STBY mode, the camcorder turns off.
- **10 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode after a short period of time. After 10 minutes in Quick On STBY mode, the camcorder turns off.
- **20 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode after a short period of time. After 20 minutes in Quick On STBY mode, the camcorder turns off.

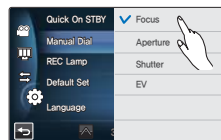


- We recommend that you turn off your camcorder to reduce energy consumption when not recording. However, you can effectively reduce energy consumption by using the Quick On STBY function in situations where you are going to record frequently over an extended time and need the camcorder to start up quickly.
- The mode indicator keeps blinking in the Quick On STBY mode.
- **The Quick On STBY mode is not available under the following conditions:**
  - When the LCD screen is open.
  - When you operate the buttons on the camcorder.

# Manual Dial

You can assign one frequently used function (focus, aperture, shutter speed, or exposure) to the Manual Dial and then use the Manual Dial to set that function during recording.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Manual Dial”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



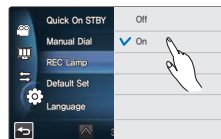
## Submenu items

- **Focus:** Focus function is assigned to the Manual Dial.
- **Aperture:** Aperture function is assigned to the Manual Dial.
- **Shutter:** Shutter function is assigned to the Manual Dial.
- **EV:** Exposure value function is assigned to the Manual Dial.

# REC Lamp

You can set the REC lamp function on so that the REC lamp lights up when you are recording.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “REC Lamp”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



## Submenu items

- **Off:** The recording lamp does not light up during recording.
- **On:** The recording lamp on the front of the camcorder lights up while you are recording, indicating that the camcorder is recording a video or photo.

# system setting

## Default Set

You can restore all menu settings to the default conditions (factory settings).

1. Touch the Menu (MENU) tab → Other setting (⚙️) → **"Default Set"**
  - A message appears asking for your confirmation.
2. Touch **"Yes"** if you want all the settings returned to the default.
  - The Time Zone screen appears after all settings return to the default.
3. Set the date and time again. ➡ page 29



- Do not turn off the power while using this function.
- Initializing the camcorder settings to factory defaults does not affect recorded images.

## Language

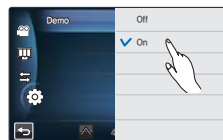
You can select the language the camcorder uses to display the menu and messages. ➡ page 30



# Demo

Demo mode automatically shows you the major functions that are included with your camcorder so that you can use them more easily.

1. Touch the Menu (MENU) tab → Other setting (⚙️) → “Demo”
2. Touch the desired submenu item.
3. To exit the menu, touch the Return (⏪) tab.



## Submenu items

- **Off:** Disables the function.
- **On:** Enables the Demo function.

## Using the Demo function

The Demo mode is canceled in the following cases:

- If the LCD screen is touched.
- If any button is operated (**Recording start/stop**, **Display** (ILL), **SMART AUTO**, **MODE**, **PHOTO**, etc.) However, the camcorder will enter the Demo mode automatically after 5 minutes in STBY mode if it is idle for 5 minutes without an operation. If you don't want the Demo function to start, set “Demo” to “Off”.



## The Demo function does not operate in the following case:

- If “**Auto Power Off**” is set to “**5 Min**”(uses the battery as main power), the Auto Power Off function turns the camcorder off before Demo can run. ➡ page 101

# editing video clips

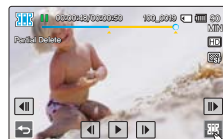
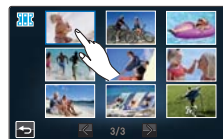
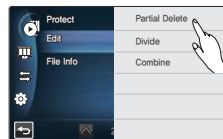
## DELETING A SECTION OF A VIDEO (PARTIAL DELETE)

You can delete a section of a video. As the partial delete function changes the original video file, store a copy of the original video file separately before starting this function.

### PRECHECK!

- Insert a memory card. ➡ page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➡ page 31
- Select the Play (📺) tab on the LCD screen to select the Video play (📺/📺) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Edit” → “Partial Delete.”
2. Touch the video you want to edit.
  - The camcorder displays the video in paused mode.
3. Select the start point to delete using the playback control tabs, then touch the (☑) indicator at the start point.
  - Playback related tabs: ⏮/⏪/⏩/⏭/⏮/⏪/⏩/⏭
  - Drag the playback progress bar to left or right on the LCD screen to move directly to the start point you want.
  - The (▲) indicator appears at the start point.
4. Select the end point to delete using the playback control tabs, then touch the (☑) indicator at the end point.
  - Drag the playback progress bar to left or right on the LCD screen to move directly to the desired point.
  - The (▲) indicator appears at the end point.
5. Touch the Cut (✂) tab.
  - The message to confirm is displayed.
6. Touch “Yes.”
  - The section between the start and end points is deleted.



- The deleted section of the original video can not be recovered.
- Do not eject a memory card or power off while editing a video recorded on the storage media. Doing so may damage the storage media or data.



- You can also operate this function in the full and single image display mode.
- You can not edit files that display the protect indicator (🔒). Cancel the protect function first. ➡ page 109
- Touch the Return (⏮) tab to cancel the partial deletion before it is complete or to restart the Partial Delete function.
- The Partial Delete function is not available under the following conditions.
  - If the recorded time of a section you want to delete is less than 3 seconds.
  - If the total recorded time of a video after partial deletion is less than 3 seconds.
  - If the remaining memory space is less than 15MB.
- If the start point is placed behind the end point, the start/end points will be changed automatically.



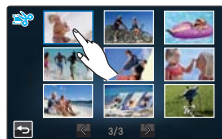
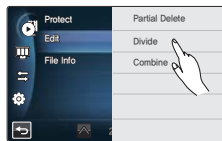
# DIVIDING A VIDEO

You can divide a video into two, and easily delete a section you no longer need. As this function changes the original file, backup the original video file before starting this function.

## PRECHECK!

- Insert a memory card. ➔page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➔page 31
- Select the Play (▶) tab on the LCD screen to select the Video play (▶/▶) mode. ➔page 49

1. Touch the Menu (MENU) tab → “Edit” → “Divide.”
2. Touch the desired video to edit.
  - The camcorder displays the video in paused mode.
3. Find the point of division by touching the playback control tabs.
  - Playback control tabs: ▶/||/◀/▶/◀/||/▶/||/▶
  - Drag the playback progress bar to left or right on the LCD screen to move directly to the division point.
4. Touch the Pause (||) tab at the point of division, then touch the Cutting (✂) tab.
  - A message appears asking for your confirmation.
5. Touch “Yes.”
  - The video is divided into two video clips.
  - The second portion of the divided video is displayed as the last thumbnail.
  - After the division, you can partially delete unnecessary sections of the divided videos or combine them with other videos.



Do not eject a memory card or power off while editing a video recorded on the storage media. Doing so may damage the storage media or data.



- You can also operate this function in the full and single image display mode.
- You can not divide files that display the protect indicator (Ⓜ). Cancel the protect function first. ➔page 109
- The beginning or end of the divided videos may drift by approx. 2 seconds before or after the division point.
- **The Divide function is not available under the following conditions:**
  - If the total recorded time of the video is less than 6 seconds.
  - If you trying to divide sections without leaving 3 seconds at the beginning and the end.
  - If the remaining section of the memory space is less than 15MB.
  - Photos cannot be divided.
  - When the number of files reaches 9999.
  - The division function does not work if available space on the storage is insufficient.

Delete unnecessary videos.

# editing video clips

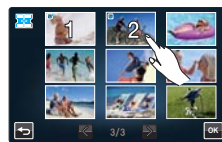
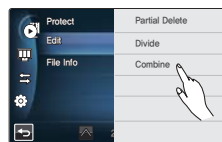
## COMBINING VIDEOS

You can combine two different videos. As this function combines two files into one and does not preserve the original files, make sure to back up the original files before you combine them.

### PRECHECK!

- Insert a memory card. ➡ page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ➡ page 31
- Select the Play (📺) tab on the LCD screen to select the Video play (📺/📺) mode. ➡ page 49

1. Touch the Menu (☰) tab → “Edit” → “Combine.”
2. Touch the video thumbnails you want to combine in the order you want them to appear in the combined video.
  - The (✓) indicator and the order number are displayed on the selected videos. Touching the video thumbnail toggles the image between being selected (✓) or not selected.
  - The (✓) indicator does not appear if the videos you selected were recorded in different resolutions.
3. Touch the (OK) tab.
  - A message appears asking for your confirmation.
4. Touch “Yes.”
  - The selected video files are combined in the chosen order and stored as one video.



Do not eject a memory card or power off while editing a video recorded on the memory card. Doing so may damage the storage media or data.



- You can not combine files that display the protect indicator (🔒). Cancel the protect function first. ➡ page 109
- The original videos are not preserved. Back up the originals before you combine.
- **The Combine function is not available under the following conditions:**
  - If the videos you want to combine were recorded in different resolution formats. (For example, videos recorded at “Resolution: 1080/60i(XF)” and “Resolution: 720/60p” cannot be combined.
  - If the file size of the combined videos exceeds 1.8 GB.
  - If a video's file format is not supported by the camcorder.
  - When playing a video file.

# file management

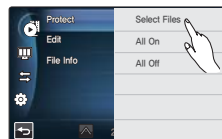
## PROTECTION FROM ACCIDENTAL ERASURE

You can protect important recordings from accidental erasure. The protected videos and photos can not be deleted unless you cancel the protection or format the storage medium.

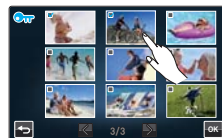
### PRECHECK!

- Insert a memory card. ↪page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ↪page 31
- Select the Play (📺) tab on the LCD screen to select the Video play (📺/📺) or Photo play (📷) mode. ↪page 49

1. Touch the Menu (☰) tab → **“Protect”** → then the desired submenu item.
  - If you touched **“Select Files”**, you will see image thumbnails. Go to Step 2.
  - If you touched All On or All Off, you will see the message that corresponds to that option. Go to Step 3.



2. Touch the files you want to protect. After you have selected all the files you want to protect, touch the **OK** tab. Go to Step 3.
  - See Submenu items below for additional details



3. Touch **“Yes.”**
  - If you selected All On, the (✓) indicator appears on all files. If you selected All Off, the (✓) indicator disappears from all protected files.
  - If you selected **“Select Files”**, the indicator appears on the files you selected for protection and disappears from the files you removed protection from.

### Submenu items

- **Select Files:** Protects individual images.  
Touch the images to protect from erasure.  
The (✓) indicator is displayed on the selected images.  
Touching the thumbnail image toggles the image between being selected (✓) or not selected.  
Touch the (☰) tab.
- **All On:** Protects all images.
- **All Off:** Releases the protected images all at once.



- You can also operate this function in the full and single image display mode.
- If the write protection tab on the memory card is set to lock, you cannot apply this function.  
↪page 33

# file management

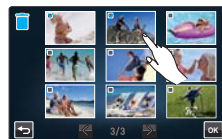
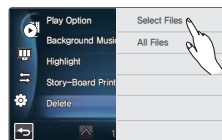
## DELETING FILES

You can erase your recordings one by one, or at once.

### PRECHECK!

- Insert a memory card. ↪ page 32
- Set the appropriate storage media. (HMX-S15/S16 only) ↪ page 31
- Select the Play (📺) tab on the LCD screen to select the Video play (📺 / 📺) or Photo play (📺) mode.  
↪ page 49

1. Touch the Menu (☰) tab → “Delete” → then the desired submenu item.
  - If you touched “Select Files”, you will see image thumbnails. Go to Step 2.
  - If you touched All Files, you will see the message that corresponds to that option. Go to Step 3.
2. Touch the files you want to delete. After you have selected all the files you want to delete, touch the **OK** tab. Go to Step 3.
  - See Submenu items below for additional details
3. Touch “Yes.”
  - If you selected All Files, the camcorder deletes all the files in storage media, except for those that are protected.
  - If you selected “Select Files”, the camcorder deletes the files you selected.



### Submenu items

- **Select Files:** Deletes individual images.  
Touch the images you want to delete. The (✓) indicator is displayed on the selected images. Touching the thumbnail image toggles the image between being selected (✓) or not selected. Touch the (📺) tab.
- **All Files:** Deletes all images.



- Deleted images cannot be recovered.
- Do not eject a memory card or power off while deleting videos recorded on the storage media. Doing so may damage the storage media or data.



- You can also operate this function in the full and single image display mode.
- To protect important images from accidental erasure, activate the image protection function in advance.  
↪ page 109
- You can not delete protected files. Cancel the protect function first. ↪ page 109
- If the write protection tab on the memory card is set to lock, you cannot delete the images. ↪ page 33
- The delete function does not work if battery charge is insufficient. It is recommended to use AC power to continue power supply during the deletion.

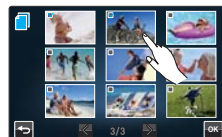
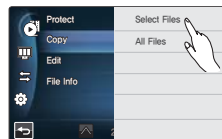
## COPYING FILES (HMX-S15/S16 ONLY)

You can copy videos and photos stored in the internal memory to the external flash memory card. Copying to the memory card does not delete originals in the internal memory.

### PRECHECK!

- Insert the memory card in your camcorder. ➞ page 32
- Select the Play (📺) tab on the LCD screen to select the Video play (📺/📺) or Photo play (📷) mode.  
➞ page 49

1. Touch the Menu (☰) tab → **“Copy”** → then the desired submenu item.
  - If you touched **“Select Files”**, you will see image thumbnails. Go to Step 2.
  - If you touched All Files, you will see the message that corresponds to that option. Go to Step 3.
2. Touch the files you want to copy. After you have selected all the files you want to copy, touch the **OK** tab. Go to Step 3.
  - See Submenu items below for additional details.
3. Touch **“Yes.”**
  - If you selected All Files, the camcorder copies all the files in storage media.



### Submenu items

- **Select Files:** Copy individual images.  
Touch the images you want to copy.  
The (✓) indicator is displayed on the selected images.  
Touching the thumbnail image toggles the image between being selected (✓) or not selected.  
Touch the (☑) tab.
- **All Files:** Copy all images.



Do not eject a memory card or power off while copying files stored on the storage media. Doing so may damage the storage media or data.



- You can also operate this function in the full and single image display mode.
- If the write protection tab on the memory card is set to lock, you cannot copy the images.  
➞ page 33
- You can not copy a file if the memory card has insufficient free space. Remove unnecessary files before proceeding. ➞ page 110
- The copy function does not work if the battery charge is insufficient. We recommend you use the AC power supply to provide continuous power during the copying.
- You cannot copy files if the number of video and photo files on the storage media you want to copy is 9999.

# wireless network connection and configuration (HMX-S15/S16 only)

## AUTO CONNECTING TO A NETWORK

You can connect to a network using an AP (access point) in the wireless network service area.

### PRECHECK!

Select the record (👤/📷) mode by pressing the **MODE** button. ➡page 27

1. Touch the Network (📶) tab → “Settings” → “Access Point Setting.”
  - The camcorder automatically scans for available APs available in the network.
  - To reload the AP device list, touch the Refresh (🔄) tab.
2. In the list that appears, touch the desired AP.
  - The camcorder connects to the network if you are using an unsecured AP (an AP without a Security Key or Pass Phrase).
  - If you select a WPS AP, touch the WPS PBC tab on the bottom of the LCD screen, and then press the WPS button on the AP device or router within 2 minutes, which will be activated on the screen.
  - If you select a secure AP, touch the (🔒) tab and proceed to the next step.
3. Configure the network settings. See the Submenu items below.

### Submenu items

- **Authentication:** Select an authentication type according to your AP's setting.  
(Open, Shared, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK).  
When you select Open or Shared, WPA is automatically set.
  - **Data Encryption:** Select an encryption type according to your AP's setting.  
(Disabled, WEP, TKIP, AES, TKIP/AES Mixed)
  - **Network Key:** Select the password using the keyboard that appears, and then touch the (📄) tab. For typing in characters using the virtual keyboard, see page 115.
  - **IP Setting:** The default is Auto. To set the IP manually, refer to page 114.
4. Touch the (🔒) tab.
    - The camcorder connects to the network via the selected AP.
    - You can check the signal strength in the top right corner of the screen.



### AP Information



#### WPS (WiFi Protected Setup) AP

The camcorder automatically connects to the wireless network safely and easily.



#### Secured AP

The camcorder connects to the wireless network using the assigned password and IP setting.



#### Ad-hoc AP

It will connect to the network using a mobile terminal that supports wireless communication.



#### Signal strength

Displays the strength of the wireless signal from the AP device.

### Signal Strength



Not connected



Very weak



Weak



Normal



Very strong



- Even if AP authentication and Data Encryption have been detected, set the authentication mode to Open or Shared.
- If the camcorder does not detect the AP automatically, you can set the network properties directly.  
→ page 112
- Data encryption settings by authentication type are below:
  - Open → Disabled or WEP
  - Shared → WEP
  - WPA-PSK → TKIP or AES
  - WPA2-PSK → TKIP or AES
- Compatibility with an AP that has not been formally Wi-Fi certified cannot be guaranteed.
- The wireless network connection may not be stable, depending on the connected AP.
- When the distance from AP is large, the network connection takes longer and video stuttering may occur.
- If there is an electric device using the same frequency range as the network near the camcorder, you may experience wireless interference.
- If an AP device is named in a language other than English, it may not be displayed in the AP list or, if it is, it may appear in a corrupted format or font.
- For the network settings and password, contact the network administrator or the service provider.
- If you are prompted to get authenticated in a separate process, you may be disconnected from the network. If this occurs, please contact the service provider.
- The letters and numbers used in passwords may differ, depending on the encryption type.
- You may not be able to connect to the wireless network, depending on the conditions.
- The AP search may find a printer that supports the wireless network, but you can not use the printer to connect to the network.
- The service provider may charge you a fee for the wireless connection under the contract made between you and the service provider.
- Channels available for the networking differ according to the region (country).
- Some countries may restrict wireless networking under local radio regulation laws.  
We recommend you connect your camcorder to networks only inside the country where you purchased it.
- When the Data Encryption is set to WEP or TKIP for 802.11n AP connection, you can access in the 802.11g mode. In the 802.11g mode, the network connection and speed are not guaranteed.

# wireless network connection and configuration (HMX-S15/S16 only)

## MANUAL NETWORK CONNECTION

By typing in the IP address, you can connect to a network via an AP (access point) in the wireless network service area.

### PRECHECK!

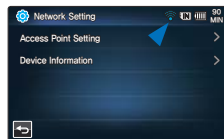
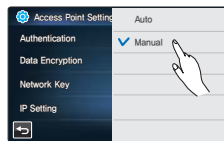
Select the record (📷/📹) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Network (📶) → “Settings” → “Access Point Setting” → the desired AP’s icon (📶) → “IP Setting” → “Manual.”
  - The IP setup screen appears.
  - If you select a WPS AP, touch the WPS PIN tab on the bottom of the LCD screen, and then enter the generated PIN number in the AP device within 2 minutes.
2. Touch each item and enter the required value by using the virtual keyboard.

#### Submenu items

- **IP:** Provide the IP address.
- **Subnet Mask:** Provide the subnet mask.
- **Gateway:** Provide the gateway.
- **DNS Server:** Provide the DNS address.

3. When done, touch the (OK) tab.
  - The camcorder connects to the network via the selected AP.



- For more information about the network settings, contact the network administrator or the service provider.
- The network settings may differ, depending on network conditions.
- Do not try to connect to a network that you have no permission to access.
- Use a fully charged battery while you are using network services.



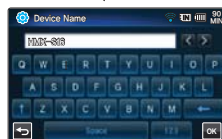
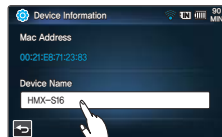
# DEVICE INFORMATION

Enter your device name so that your camcorder can be found easily by other devices.

## PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡page 27

1. Touch the Network (📶) → “Settings” → “Device Information” → Touch the device name field.
  - The virtual keyboard appears.
2. Touch the input bar and enter your device name.
3. When done, touch the (OK) tab.



## Using the virtual keyboard

You can use the virtual keyboard to enter your information and settings.

Touch the desired characters, numbers, or symbols. When done, touch the (OK) tab.



⬅️/➡️	Move the cursor
⬆️	Change the case or change the symbols
123	Display numbers and symbols
Space	Insert a space
⬅️	Clear the last character
OK	Complete your input



You can only enter the information in English, regardless of the language settings.

# using the wireless network (HMX-S15/S16 only)

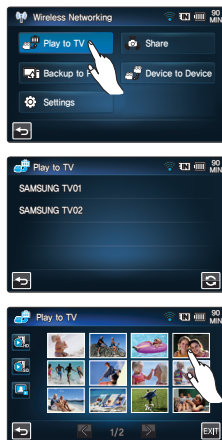
## PLAYING VIDEOS/PHOTOS ON THE TV SCREEN

You can play the videos and photos in the camcorder on a TV screen through a network on a Samsung TV that features DMR (Digital Media Renderer) based on DLNA. We recommend using a TV that supports the AllShare function. For optimal configuration information, see page 118.

### PRECHECK!

- Connect the AP device and TV to a wired LAN. For more information, refer to the TV's instruction manual.
- Select the record (📹/📷) mode by pressing the **MODE** button. ➡page 27

1. Touch the Network (🌐) → **"Play to TV."**
  - The camcorder connects to the network via the last AP it had been connected to.
  - If the camcorder has never been connected to an AP, it scans for available APs. ➡page 112
2. The camcorder displays the available APs. Touch the AP you want.
  - To reload the AP device list, touch the Refresh (🔄) tab.
3. Touch the HD (📺), SD (📺) or Photo (📷) tab.
  - Video or photo thumbnails appear.
  - The videos and photos in the thumbnails are displayed only in 4x3.
  - Use ⏮ / ⏭ to move to the previous or next page.
4. Touch the video or photos you want to play on the TV.
  - The videos or photos play on the TV screen, but the corresponding images are just displayed on the camcorder's LCD screen.
  - Play the selected video. When it finishes, return to the video thumbnails to select another video to play.
  - If you select more than one photo, the photos play as a slide show.
  - As the photo slide show repeats endlessly, tap Return (⏮) to stop the show.
5. To end **"Play to TV,"** touch the Exit tab.



- Connect the camcorder and AP wirelessly. Connect the TV and AP with cables.
- You can play only those videos and photos that were recorded by the camcorder on the TV screen.
- The effective network connection range between the camcorder and the TV may differ depending on the AP.
- If the camcorder is turned off abnormally (ex: network disconnection) while you are playing a video or photo on the TV, the TV considers itself still connected to the camcorder.
- Depending on the size of the video or photo file, it may take longer to connect to the TV and display.
- You cannot enable this function if there are no recorded videos or photos in your camcorder.
- When playing HD quality videos on a TV, use an 802.11n AP and set it to 802.11n. Important: If you set the Data Encryption on your network to WEP or TKIP, the network defaults to 802.11g and the camcorder cannot play HD quality videos on the TV.
- You can select up to 1000 photos and videos files to watch through your TV. The more files you select, the slower the camcorder operates. We recommend selecting fewer than 1000 files.
- This function supports only DLNA-certified DMR (Digital Media Renderer).
- This function may not operate properly on a Samsung HDTV that has no AllShare™ mark on it.
- Video stuttering may occur, depending on the TV type and network status.
- If video stuttering occurs, record videos you intend to play through a wireless connection at lower video quality (SF, F, or SD).
- If video stuttering occurs frequently when you use a wireless connection, change to HDMI or AV cable. ➡pages 122, 124
- If you play videos on a Samsung HDTV supporting AllShare™ and video stuttering occurs repeatedly for over 3 seconds, consult the Samsung call center. See the back cover for the phone number.

# SHARING THE VIDEOS/PHOTOS

You can play the videos and photos in the camcorder on a TV that features DMP (Digital Media Player) based on DLNA via the network.

## PRECHECK!

- Connect the AP device and TV to the wired LAN. For more information, refer to the TV's instruction manual.
- Select the record (📹/📷) mode by pressing the **MODE** button. ➡page 27

### 1. Touch the Network (📶) → “Share.”

- The camcorder connects to the network via the last AP it had been connected to.
- If the camcorder has never been connected to an AP, it scans for available APs. ➡page 112



### 2. Follow the directions in your TV's users manual to activate and use the TV's DMP function.

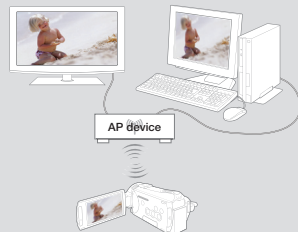
### 3. Enjoy the videos and photos in the camcorder on the TV screen via the network.

- To exit sharing, touch the Return (⏮) tab.

## What is DLNA (Digital Living Network Alliance)?



DLNA enables you to share multimedia contents by connecting all home appliances in a network. With DLNA, you can transfer and play videos and photos using wireless connections between home networked devices such as a TV or PC and your camcorder.



- Connect the camcorder and AP wirelessly. Connect the TV and AP with cables.
- You can play only those videos and photos that were recorded by the camcorder on the TV screen.
- The effective network connection range between the camcorder and the TV may differ depending on the AP.
- If the camcorder is turned off abnormally (ex: network disconnection) while you are playing a video or photo on the TV, the TV considers itself still connected to the camcorder
- It may take longer to transfer videos or photos to the device, depending on the network connection and the file size.
- You cannot enable this function if there are no recorded videos or photos in your camcorder.
- You can share up to 1000 photos and videos files. The more files you share, the slower the camcorder operates. We recommend selecting fewer than 1000 files to share.
- When playing HD quality videos on a TV, use an 802.11n AP and set it to 802.11n. Important: If you set the Data Encryption on your network to WEP or TKIP, the network defaults to 802.11g and the camcorder cannot play HD quality videos on the TV.
- This function is applied only to DLNA-certified DMP (Digital Media Player).
- This function may not operate properly on a Samsung HDTV that has no AllShare™ mark on it.
- Video stuttering may occur, depending on the TV type and network status.
- If video stuttering occurs, record videos you intend to play through a wireless connection at lower video quality (SF, F, or SD).
- If video stuttering occurs frequently when you use a wireless connection, change to HDMI or AV cable. ➡pages 122, 124
- If you play videos on a Samsung HDTV supporting AllShare™ and video stuttering occurs repeatedly for over 3 seconds, consult the Samsung call center. See the back cover for the phone number.

## SETTING UP THE OPTIMAL NETWORK CONFIGURATION FOR DLNA STREAMING

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- Connect the TV and router with a LAN/Network cable. Connect the camcorder to the router wirelessly.
- If you plan on streaming HD quality videos (1080i or 720p), you must use a Wireless N Router (802.11n).
- Keep the camcorder a minimum of 3 feet from the wireless router.
- Video buffering may occur depending on network conditions and the resolution of the video file you are streaming.
- If video buffering occurs, change the network configuration and wireless settings:
  - 1) Check how many routers the camcorder displays on its Access Point Setting screen. If it displays more than 5 or 6 routers, this can slow streaming performance.
  - 2) Change the channel your router is broadcasting on. We recommend using channel 2 or 9. See the router's user's manual or contact the router's manufacturer for the exact procedure.
  - 3) If possible, remove all data encryption (passwords) on the router. This will improve overall performance.
- If video buffering still occurs, then lower the quality of the video you are attempting to stream. Please remember that 1080i XF resolution video displays 24 Mbps (megabits per second) and many home networks cannot handle this amount of information.

# SAVING THE VIDEOS/PHOTOS TO A PC

You can save the videos and photos in the camcorder to a PC via the network.

## PRECHECK!

Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

1. Touch the Network (📶) → **"Backup to PC."**
  - The camcorder connects to the network via the last AP it had been connected to.
  - If the camcorder has never been connected to an AP, it scans for available APs. ➡ page 112
2. The camcorder displays the available APs. Touch the AP you want.
  - To reload the AP device list, touch the Refresh (🔄) tab.
3. Touch the HD (📺), SD (📁) or Photo (📷) tab.
  - Video or photo thumbnails appear.
  - The videos and photos in the thumbnails are displayed only in 4x3.
  - Use ⏮ / ⏭ to move to the previous or next page.
4. Touch a video or photo you want to save to the PC.
  - The video or photo you selected is marked with a (✓) on the screen. Each time you touch a file, it will be selected then deselected alternately.
5. Touch the (OK) tab.
  - To cancel saving the files, touch Cancel.
6. To exit **"Backup to PC,"** touch the Exit (✕) tab.



- You can save only those videos and photos that were recorded by the camcorder.
- The effective network connection range between the camcorder and the TV may differ depending on the AP.
- This function is available only after you have installed Samsung Kies on your PC. Samsung Kies is a program that lets you transfer files wirelessly from your camcorder to your PC. For more details, visit the website [www.samsung.com](http://www.samsung.com).
- The following folders and files are created in the internal memory and memory card to support Kies. These files and folders are necessary for your computer to detect the camcorder through Kies. If the names of these folders and files are modified or deleted, your PC can not detect the camcorder.
  - system/Contents.xml, system/Device.xml
- For the Kies environment configuration, see page 149.
- If the camcorder turns off abnormally (ex: battery failure) while you are saving a video or photo to your PC, the PC considers itself still connected to the camcorder.
- It may take longer to transfer videos or photos to a device, depending on the network connection and the file size.
- You cannot enable this function if there are no recorded videos or photos in your camcorder.

# using the wireless network (HMX-S15/S16 only)

## TRANSFERRING VIDEOS AND PHOTOS BETWEEN OTHER DEVICES

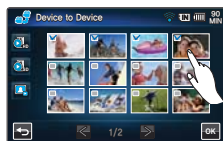
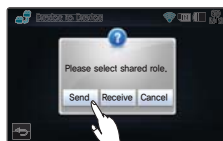
You can send or receive video or photo files between your camcorder and other devices.

### PRECHECK!





Select the record (📹/📷) mode by pressing the **MODE** button. ➡ page 27

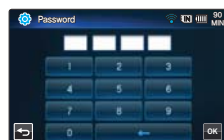
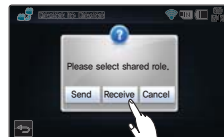
### To transfer your videos/photos to another camcorder

1. Touch the Network (📶) → “Device to Device.”
2. Touch “Send.”
  - Your camcorder creates and displays a password automatically, then waits for the connection to the other camcorder.
3. If prompted to enter the password on the screen of the other camcorder, enter the 4 digit password that was created on your camcorder.
  - When the connection is made, the video or photo selection area is displayed on your camcorder.
4. Touch the HD (📺), SD (📺) or Photo (📷) tab.
  - Thumbnails of videos or photos appear.
  - The videos and photos in the thumbnails are displayed only in 4x3.
  - Use ⏮ / ⏭ to move to the previous or next page.
5. Touch the video or photo you want to transfer to the other camcorder.
  - The selected video or photo is marked with a (✓) on the screen. Each time you touch the file, it is selected and deselected alternately.
6. Touch the (OK) tab.
  - To cancel the transfer while it is in progress, touch Cancel.
7. To end the “Device to Device” transfer, touch the Return (⏮) tab.



## To receive videos/photos from another camcorder

1. Touch the Network (  ) → “Device to Device.”
2. Touch “Receive.”
  - Search for the target camcorder.
  - If the target camcorder is not displayed in the search list, touch the Refresh (  ) tab to search again.
3. Touch the target camcorder in the search list.
4. Enter the password and touch the (  ) tab.
  - This password is displayed on the screen of the camcorder that will be sending videos or photos. Copy it from there.
  - The camcorder starts transferring videos or photos.
5. To end the “Device to Device” transfer, touch the Return (  ) tab.



- The device-to-device transfer uses wireless ad-hoc communication.
- If your camcorder was used as a receiver, you must cancel the connection before you can use it as a sender. To cancel the connection, touch the Return tab.
- The network connection range between the camcorders may differ depending on the wireless ad-hoc network conditions.
- If the connection between your camcorder and the other camcorder is terminated abnormally, your camcorder considers itself still connected and only indicates the disconnection after a certain amount of time.
- Depending on the wireless ad-hoc network's conditions and the photo or video file sizes, it may take a while to send or receive videos or photos.
- You can send or receive only those videos and photos that were recorded by the camcorder.
- You cannot enable this function if there are no recorded videos or photos in your camcorder.
- Device-to-device transfer is available only between Samsung products (camcorder, digital camera, etc.) that have the Device to Device transfer function.

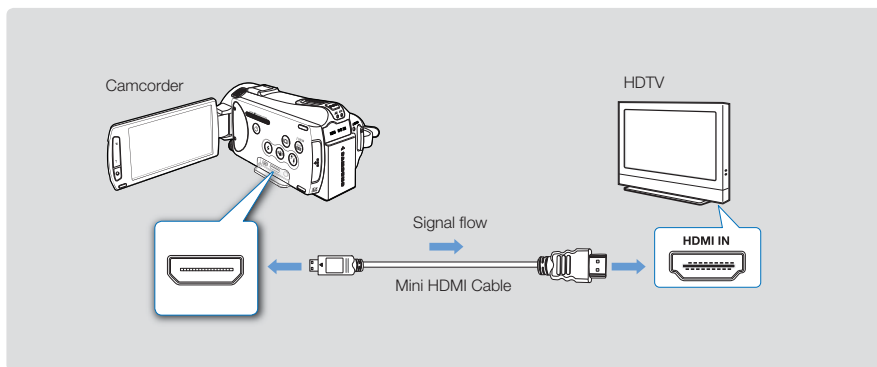
# connecting to a TV

## CONNECTING TO A HIGH DEFINITION TV WITH HDMI

You can view High Definition (HD) quality videos recorded in HD resolution on an HDTV using an HDMI connection. This camcorder supports HDMI output to deliver high-definition video transfer.

### PRECHECK!

- Check if there is an HDMI input jack on your TV.
- Use the AC power adaptor to power the camcorder when you attach it to a TV.
- Select **"HDMI TV Out"**. ➔ page 92



### Using a mini HDMI cable

1. Connect the camcorder to a TV with a Mini HDMI cable.
  - Turn on the camcorder, and then connect a Mini HDMI cable. If you do not turn on the camcorder first, the camcorder may fail to recognize the connected TV.
2. Set the TV's input or source selector to the HDMI input you've attached the camcorder to. Refer to the TV's instruction manual to see how to select the TV's input or source.
3. Select the playback mode on your camcorder, and then start to play back videos.  
➔ page 50



## Understanding the HDMI cable

HDMI (High Definition Multimedia Interface) is a compact audio/video interface for transmitting uncompressed digital data.

## What is Anynet+ function?

The Anynet+ function lets you control all devices that support the Anynet + function with the same remote. You can use the Anynet + function on the camcorder if the camcorder is connected with an HDMI cable to an Anynet+ supported TV. For more information, refer to the Anynet+ supported TV's user manual.



- When **"HDMI TV Out"** is set to **"Auto,"** you can play an SD video file in HD format.
- This camcorder is provided with the **"TV Connect Guide"** menu function. If you try to connect the camcorder to a TV and don't have your user's manual, you can use the **"TV Connect Guide"** menu function to view connection instructions on the camcorder's screen. ➔ page 94
- You can use only a C to A type Mini HDMI cable with this camcorder.
- The HDMI jack on the camcorder is for output only.
- If an Anynet+ supported TV is connected to the camcorder by an HDMI cable, turning on the camcorder may turn the TV's power on. (an Anynet+ function) If you don't want this to occur, set **"Anynet+ (HDMI-CEC)"** to **"Off."** ➔ page 95
- Use only HDMI 1.3 cable when connecting to the HDMI jack of this camcorder. If the camcorder is connected with HDMI cables that are not version 1.3, the screen display may not work.

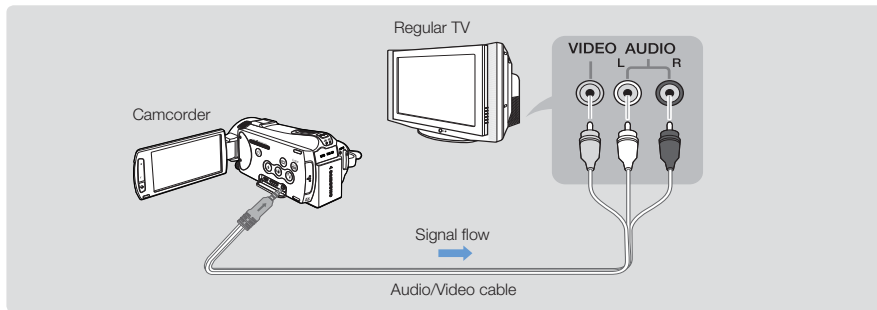
# connecting to a TV

## CONNECTING TO A REGULAR TV

You can view images recorded with your camcorder on a regular TV that supports standard definition. This camcorder supports the composite output for standard definition video transfer.

### PRECHECK!

Use the AC power adaptor to power the camcorder when you attach it to a TV.



### Connecting an Audio/Video cable for the composite output

1. Connect the camcorder to a TV with an Audio/Video cable.
  - Turn on the camcorder, then connect a Audio/Video cable. If you do not turn on the camcorder first, the camcorder may fail to recognize the connected TV.
2. Set the TV's input or source selector to the input you've attached the camcorder to.
  - Refer to the TV's instruction manual to see how to select the TV input.
3. Select the playback mode on your camcorder, and then start to play back videos.  
➡ page 50



- Make sure you've connected the camcorder to the correct input jacks. The TV screen may not display the right video information if connected incorrectly.
- When connecting to a TV using the Audio/Video cable, match the color of the cables to the color of the corresponding jacks.
- Video input may appear green depending on the TV. If this occurs, connect the yellow plug of the Audio/Video cable to the green jack of the TV.
- When the camcorder is connected to a TV with more than one kind of cable, the camcorder outputs video signals in the following order of priority:
  - HDMI → Audio/Video (composite) output
- This camcorder is provided with the **"TV Connect Guide"** menu function. If you try to connect the camcorder to a TV and don't have your user's manual, you can use the **"TV Connect Guide"** menu function to view connection instructions on the camcorder's screen. ➡ page 94
- If your TV has one audio jack (mono input), connect the yellow plug of the Audio/Video cable to the video jack, the white plug to the audio jack, and leave the red plug unconnected.
- Do not use excessive force when connecting the cable.
- When you connect the camcorder to a TV using the Audio/Video cable, Images recorded in high-definition image quality (1080/60i, 1080/30p or 720/60p) are played back in standard definition image quality.

## VIEWING ON A TV SCREEN

### Image appearance depends on TV screen ratio

Set **"TV Type"** according to the screen ratio of the TV connected to the camcorder. ➡ page 91

Recording ratio	Appearance on Wide (16:9) TV	Appearance on 4:3 TV
Images recorded in a 16:9 ratio: <ul style="list-style-type: none"><li>• Video images</li><li>• Photo images</li><li>• Photo capture images</li></ul>		



- Adjust the volume to a moderate level. If the volume is too high, the video information may include noise.
- If **"TV Display"** is set **"Off,"** the TV screen does not display the camcorder's OSD (On Screen Display) menus. ➡ page 91

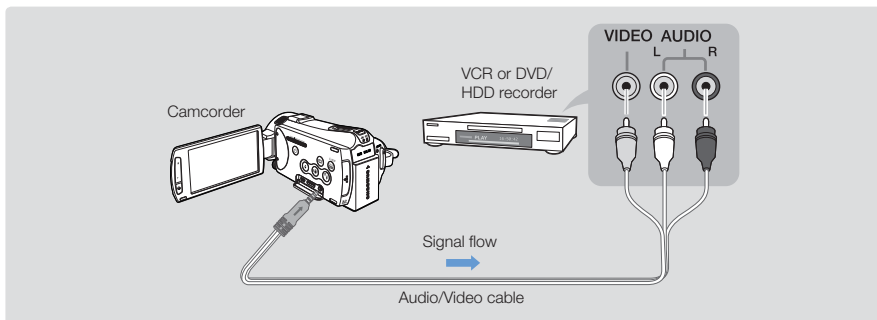
# dubbing videos

## DUBBING TO A VCR OR DVD/HDD RECORDER

Videos recorded in this camcorder can be dubbed to a VCR or DVD/HDD recorders.

### PRECHECK!

- Videos are dubbed to the other recording device via analog data transfer. (composite connection) Use the supplied Audio/Video cable.
- Use the AC power adaptor to power the camcorder when you dub to a VCR or DVD/HDD recorder.



1. Connect your camcorder to the recording device (VCR or DVD/HDD recorder) with the Audio/Video cable.
  - Connect your camcorder to the input jacks of the recording device.
  - If your recording device has an input selector, set it to the correct input mode.
2. Insert the storage device (tape, disc, etc.) into the recording device.
3. Start the playback on your camcorder, and record it on the recording device.
  - Refer to the instruction manuals supplied with your recording device for details.
4. When dubbing is finished, stop the recording device, and the your camcorder.



- Videos recorded on this camcorder can only be dubbed using the Audio/Video cable in SD (standard definition) image quality, regardless of the recording resolution (HD/SD).
- You cannot dub to a recorder with an HDMI cable.
- To copy a video recorded in HD (high definition) image quality in HD, use the built-in software of your camcorder, and copy the video to your computer. ➡page 130
- Because dubbing is performed via analog data transfer, the image quality may deteriorate.
- To hide the screen indicators (such as the counter, etc.) on the screen of the connected monitor device set "TV Display: Off." ➡page 91
- To record the date/time, display it on the screen. ➡page 90

# printing photos

## DIRECT PRINTING WITH A PICTBRIDGE PRINTER

You can print photos directly by connecting this camcorder to a PictBridge printer (sold separately) using a USB cable.

### PRECHECK!

- Insert the memory card. ↗page 32
- Select the desired storage media. (HM-S15/S16 only) ↗page 31
- Select the Play (⏮) tab on the LCD screen to select the Photo play (📷) mode. ↗page 49

1. Touch the Menu (☰) tab → Connectivity setting (⚙) tab → “USB Connect” → “PictBridge.”
2. Use a USB cable to connect your camcorder to the printer.
3. Turn your printer power on.
  - The photo thumbnails appear.
4. Touch the photos you want to print, then touch the Print (🖨) tab.
  - The corresponding message appears.
5. Touch “Yes.”
  - The selected photo is printed.

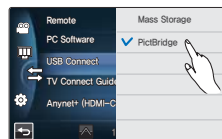
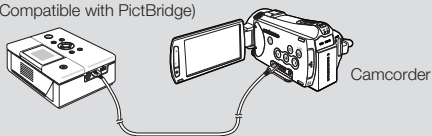


Photo Printer  
(Compatible with PictBridge)



### To set the number of prints

Touch the decrease (⏮)/increase (⏭) tab to set the number of copies to print.

- The number of copies is set.

### To cancel the print setting

Touch the Return (⏮) tab on the LCD screen.

### To stop printing after printing starts

Touch “Cancel” on the screen.

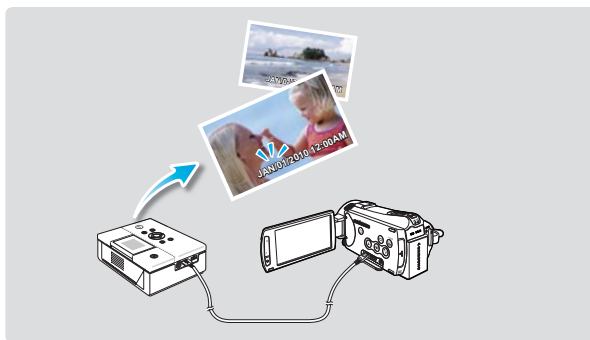
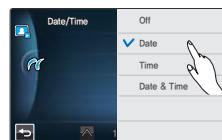


- If the camcorder is connected to a printer when “USB Connect” is set to “Mass Storage,” the message “Fail USB Connecting Change ‘USB Connect’” appears. Set the “USB Connect” to the “PictBridge” then connect the USB cable again.
- Use the supplied USB cable.

# printing photos

## To set the date/time imprint

1. In the printer mode, touch the Menu (MENU) tab → “Date/Time.”
2. Touch the desired submenu item.
  - The selected date and time display option is set.
3. To exit the menu, touch the Return (RETURN) tab.
  - The selected date and time will be printed on photos.



- The date/time imprint option may not be supported by all printers. Check with your printer manufacturer. The date/time imprint option cannot be setup if the printer does not support the option.
- PictBridge™ is a registered trademark of CIPA (Camera & Imaging Products Association), an image transfer standard developed by Canon, Fuji, HP, Olympus, Seiko Epson, and Sony.
- Use the AC power adaptor to power the camcorder during PictBridge printing. If the camcorder shuts off during printing, it might damage data on the storage media.
- Video images cannot be printed.
- Photos recorded on other devices cannot be printed.
- Various printing options are available depending on the printer. Refer to the printer's user manual for details.

# using with a Windows computer

## WHAT YOU CAN DO WITH A WINDOWS COMPUTER

You can perform the following functions by connecting your camcorder to your Windows computer with a USB cable and using the Intelli-studio editing software built into your camcorder.

### Main functions

- Intelli-studio editing software's main functions.
  - Playing back recorded videos or photos. ➡page 132
  - Editing recorded videos or photos. ➡page 132
  - Uploading the recorded videos and photos to YouTube, Flickr, Facebook, etc. ➡page 133
- You can transfer or copy the files (videos and photos) saved on the storage media into your computer. (the mass storage function) ➡page 134

### System requirements

The following requirements must be satisfied to use built-in editing software (Intelli-studio):

Items	Requirement
OS	Microsoft Windows XP SP2, Vista, or Windows 7
CPU	Intel® Core 2 Duo® 1.66 GHz or higher is recommended AMD Athlon™ X2 Dual-Core 2.2 GHz or higher is recommended (Notebook: Intel Core2 Duo 2.2GHz or AMD Athlon X2 Dual-Core 2.6GHz or higher is recommended)
RAM	1GB or higher is recommended
Video Card	nVIDIA Geforce 7600GT or higher Ati X1600 series or higher
Display	1024 x 768, 16-bit color or higher (1280 x 1024, 32-bit color recommended)
USB	USB 2.0
Direct X	DirectX 9.0c or higher

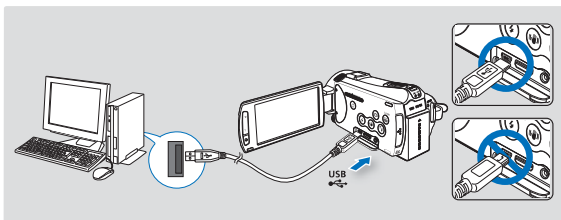


- System requirements mentioned above are recommendations. Even on a system that satisfies the requirements, Intelli-studio may not operate optimally.
- On a slower computer than recommended, video playback may skip frames or operate unexpectedly.
- If the version of DirectX on your computer is lower than 9.0c, install DirectX 9.0c or higher.
- We recommend transferring the recorded videos to a PC before playing back or editing the video data.
- To run Intelli-studio, a laptop computer requires better and faster components than a desktop PC.
- Intelli-studio is not Macintosh compliant.

# using with a Windows computer

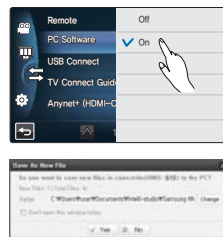
## USING THE Intelli-studio PROGRAM

Using the Intelli-studio program built into your camcorder, you can transfer video and photo files to your PC using a USB cable and edit them on your PC screen. Intelli-studio offers the most convenient way for you to manage your video and photo files.



### Step 1. Connecting the USB cable

1. Set **"USB Connect: Mass Storage"** and **"PC Software: On."**
  - These are the default settings.
2. Connect the camcorder to a PC with the USB cable.
  - A new file saving screen appears with the Intelli-studio main window.
  - Depending on your version of Windows, the removable disk window also appears.
3. Click **"Yes."** The uploading procedure starts. Click **"Yes"** to confirm.
  - If you do not want to save a new file, select **"No."**



### Q To disconnect the USB cable

To disconnect the USB cable after completing the file transfer, you must follow these steps:

1. Click the **"Safely Remove Hardware icon"** on the taskbar.
2. Select **"USB Mass Storage Device,"** and then click **"Stop."**
3. If the **"Stop a Hardware device"** window appears, click **"OK."**
4. Disconnect the USB cable from the camcorder and PC.

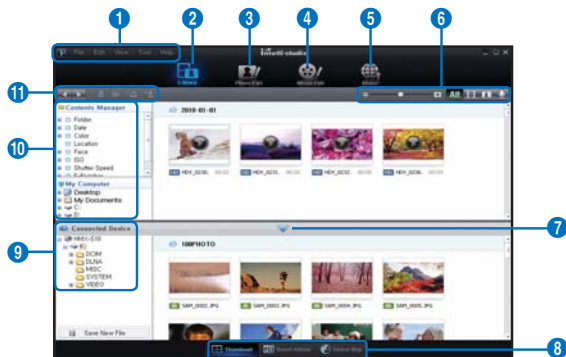


- Use the provided USB cable. (Supplied by Samsung)
- Make sure you insert the USB plug into the USB jack with the plug facing in the correct direction.
- Use the AC power adaptor to power the camcorder when transferring files to your computer.
- When the USB cable is connected, turning the camcorder on or off may cause the PC to malfunction.
- If you disconnect the USB cable from the PC or the camcorder while transferring, the data transmission will stop and the data may be damaged.
- If you connect the USB cable to a PC via a USB HUB or simultaneously connect the USB cable along with other USB devices, the camcorder may not work properly. If this occurs, remove all USB devices from the PC and reconnect the camcorder.
- Intelli-studio may not automatically run. If this occurs, access My Computer or Windows Explorer, open the drive that corresponds to your camcorder, find Intelli-studio, and then run IStudio.exe.
- While Kies is executing, the Intelli-studio does not run automatically.



## Step 2. About the Intelli-studio main window

When the Intelli-studio starts up, video and photo thumbnails are displayed in the main window.



1. Menu items
2. Switches to Library of the computer and connected camcorder.
3. Switches to Photo Edit mode.
4. Switches to Movie Edit mode.
5. Switches to Share mode.
6. : Changes the size of thumbnails.  
 : Displays all files (videos and photos).  
 : Displays video files only.  
 : Displays photo files only.  
 : Displays voice files only.
7. Minimizes the connected device screen.
8. Displays videos and photos in various ways.  
 Thumbnails: Displays video and photo thumbnails.  
 Smart Album: Arrange multiple videos and photos by various classifications.  
 Global Map: Displays the locations where photos and videos were shot on a map.
9. Select the connected device.
10. Show directories of Contents Manager and My Computer.  
 Contents Manager: You can classify and manage videos and photos on your computer.  
 My Computer: You can view videos and photos saved in selected directories of your computer.
11. Shortcut icons  
 : Navigates files (previous and next).  
 : Prints selected photo(s).  
 : View location of selected photo(s) with GPS information.  
 : Registers to Contents Manager.  
 : Manages the registry of faces in the selected photo.



Intelli-studio is a program commonly used in Samsung camcorders or digital cameras. Some functions may not work depending on the product you purchased.

# using with a Windows computer

## Step 3. Playing back videos or photos

You can play back the recordings conveniently using the Intelli-studio application.

1. Run the Intelli-studio program. ➡ page 130
2. Click the desired folder to display your recordings.
  - Video (or photo) thumbnails appear on the screen, depending on the folder you selected.
3. Choose the video or photo that you want to play.
  - You can view the file information by moving the mouse over the file.
  - If you click a video thumbnail once, the video plays back inside the thumbnail frame, allowing you to search for a desired video with ease.
4. After you select the video or photo you want, double-click to play back.
  - Playback starts and playback controls appear.



Intelli-studio supports the following file formats:

- Video formats: MP4 (Video: H.264, Audio: AAC), WMV (WMV 7/8/9)
- Photo formats: JPG, GIF, BMP, PNG, TIFF

## Step 4. Editing videos or photos

With Intelli-studio, you can edit the videos or photos in various ways. (Change Size, Fine-Tuning, Image Effect, Insert Frame, etc.)

- Before editing a video or photo in Intelli-studio, make a backup copy of the video or photo file and store it on your computer for safe-keeping using My Computer or Windows Explorer.



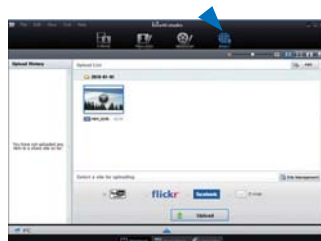
## Step 5. Sharing the videos/photos online

Share your contents with the world by uploading photos and videos directly to a web site with one click.

1. Select the videos or photos you want to share.
2. Click **"Share"** on the Intelli-studio browser.
  - The selected file appears on the sharing window.
3. Click the web site you would like to upload files to.
  - You can choose "YouTube," "Flickr," "Facebook," or another web site you want to set for your uploading management.
4. Click **"Upload"** to start uploading.
  - A pop up window appears asking for your ID and password.
5. Enter your ID and the password to access.
  - Access to the web site contents can be limited depending on your web access environment.



- For more information about Intelli-studio use, see the Help Guide by clicking **"Help."**
- The Intelli-studio application will run faster if you install it on your Windows computer. To install, click **"Tool"** → **"Install Intelli-studio on PC"** on the Intelli-studio screen.



flickr

facebook

YouTube  
READY

- Flickr is an image hosting website, web services suite, and online community platform. In addition to being a popular website for users to share personal photographs, this service is widely used by bloggers as a photo repository.
  - <http://www.flickr.com/>
- Facebook is a global social networking website that is operated and privately owned by Facebook, Inc. Users can add friends and send messages, and update their personal profiles to notify friends about themselves. Additionally, users can join networks organized by city, workplace, school, and region.
  - <http://www.facebook.com/>
- YouTube is a video sharing website. Users can upload, view, and share personalized video clips. The San Bruno-based service uses Adobe Flash technology to display a wide variety of users-generated contents including video clips, TV clips and music videos, as well as amateur contents such as video blogging and short original videos.
  - <http://www.youtube.com/>

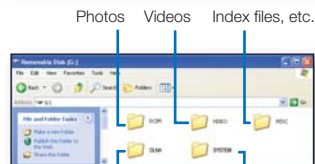
# using with a Windows computer

## USING AS A REMOVABLE STORAGE DEVICE

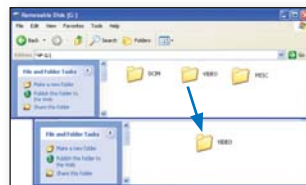
You can copy video or photo files recorded by the camcorder to a Windows computer by connecting the camcorder and computer with a USB cable.

### Viewing the contents of storage media

1. Set “USB Connect” to “Mass Storage.” ➔page 94
2. Set “PC Software” to “Off.” ➔ page 93
3. Select the storage media, if necessary.
4. Connect the camcorder to the PC with the USB cable.  
➔page 130
  - The “Removable Disk” or “Samsung” window appears on the PC’s screen after a moment.
  - Select “Open folders to view files using Windows Explorer”, and then click “OK.”
5. The folders in the storage media appear.
  - Different file types are stored in different folders.
6. Select the desired folder or files to copy, then drag and drop them into the destination folder.
  - The folder or files are copied from the storage media to the PC.



- If the “Removable Disk” window does not appear, confirm the connection (➔page 130) or perform Steps 1 through 4 again.
- If the removable disk does not appear automatically, open the removable disk folder in My Computer.
- If the connected camcorder’s disk drive does not open or the context menu that appears when right clicking your mouse (open or browse) appears broken, your computer is suspected to be infected by an Autorun virus. Please update your anti-virus software to its latest version and scan your disk drives.

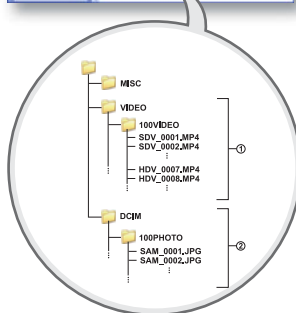


# Structure of folders and files on the storage media

- The folder and file structure for storage media are below.
- File naming follows DCF (Design rule for Camera File System) rules.

## Video file (H.264) ①

- HD-quality videos have an HDV\_####.MP4 name format.
- SD-quality videos have a SDV\_####.MP4 name format.
- The file number used in the file name automatically increases when you create a new video file.
- A new folder is created when the file number has reached 9,999.
- The folder names are given in the following order: 100VIDEO, 101VIDEO, etc. The maximum number of the folders is 999.
- The camcorder can create a maximum of 9,999 files in a storage media.



## Photo file ②

- As with video files, the file number used in the file name automatically increases when you create a new photo file.
- Photos have a SAM\_####.JPG name format.
- The folder names are given in the following order: 100PHOTO, 101PHOTO, etc.

## File format

### Video files

- Video files are compressed in H.264 format. The file extension is “.MP4.”
- Refer to page 62 for the video resolution.

### Photo files

- Photo images are compressed in JPEG (Joint Photographic Experts Group) format. The file extension is “.JPG.”
- Refer to page 62 for the photo resolution.



The name of a video file recorded by the camcorder should not be modified. For proper playback, the camcorder requires that files have their original folder and file names.

# troubleshooting

Before contacting a Samsung authorized service center, perform the following simple checks. They may save you the time and expense of an unnecessary call.






## WARNING INDICATORS AND MESSAGES




Problems may occur because of the following reasons. Check the information and take corrective action.

### Battery

Message	Icon	Informs that...	Action
Low Battery	-	The battery is almost discharged.	<ul style="list-style-type: none"><li>• Replace with a charged battery or connect the AC power adaptor.</li></ul>
Check authenticity of the battery.	-	The battery can not pass authenticity check.	<ul style="list-style-type: none"><li>• Check whether the battery is authentic. If not, change to an authentic Samsung battery.</li><li>• We recommended you use only genuine Samsung batteries in this camcorder.</li></ul>

### Storage media

Message	Icon	Informs that ...	Action
Internal Memory Full		There is not enough space to record on the internal memory.	<ul style="list-style-type: none"><li>• Delete unnecessary files from the internal memory.</li><li>• Back-up files to your PC or another storage media and delete files.</li><li>• Use a memory card.</li></ul>
Insert card		There is no memory card inserted in the memory card slot.	<ul style="list-style-type: none"><li>• Insert a memory card.</li></ul>
Card Full		There is not enough space to record on the memory card.	<ul style="list-style-type: none"><li>• Delete unnecessary files from the memory card.</li><li>• Back-up files to PC or another storage media and delete files.</li><li>• Change memory card to another one has enough free space.</li></ul>
Card Locked		The write protection tab on an SD or SDHC card has been set to lock.	<ul style="list-style-type: none"><li>• Release the write protection tab.</li></ul>
Card Error		The memory card has some problem and can not be recognized.	<ul style="list-style-type: none"><li>• Change memory card with another one.</li></ul>


Message	Icon	Informs that ...	Action
Not Formatted		The memory card is not formatted in this camcorder.	<ul style="list-style-type: none"> <li>Format the memory card using this camcorder.</li> </ul>
Not Supported Format		The memory card may have been formatted by another device and may still have existing images on it.	<ul style="list-style-type: none"> <li>Files cannot be played as the memory card format is not supported by the camcorder. Use the memory card after formatting or the new one for recording with a camcorder.</li> </ul>
Not Supported Card		The memory card is not supported in this camcorder.	<ul style="list-style-type: none"> <li>Change the memory card with the one recommended.</li> </ul>
Low Speed Card. Please record at a lower resolution.	-	The memory card is not fast enough to record at this resolution.	<ul style="list-style-type: none"> <li>Record video at a lower resolution and quality.</li> <li>Replace memory card with a faster card.</li> </ul>

## Recording

Message	Icon	Informs that ...	Action
Write Error	-	Some problem occurred while writing data to storage media.	<ul style="list-style-type: none"> <li>Turn the camcorder's power off and on for data recovery.</li> <li>If a file is not recovered, use the camcorder to format the storage media after backing up important files to a PC or another storage media.</li> </ul>
Release the Smart Auto	-	You can not operate some functions manually when Smart Auto is activated.	<ul style="list-style-type: none"> <li>Release the Smart Auto function.</li> </ul>
Recovering Data... Don't power off and keep card inside.	-	The file was not created normally.	<ul style="list-style-type: none"> <li>Wait until data recovery is finished.</li> <li>Never turn off the power or eject memory card during recording.</li> </ul>

# troubleshooting

## Recording

Message	Icon	Informs that ...	Action
The number of video files is full. Cannot record video.	-	The number of video files that can be stored is 9,999.	<ul style="list-style-type: none"> <li>Delete unnecessary files from the storage media.</li> <li>Back up files to your PC or another storage media and delete files.</li> <li>Change to another card which has enough free space.</li> <li>Set "<b>File No.</b>" to "<b>Reset.</b>"</li> <li>Format the storage media.</li> </ul>
The number of photo files is full. Cannot take a photo.	-	The number of photo files that can be stored is 9,999.	<ul style="list-style-type: none"> <li>Delete unnecessary files on the storage media.</li> <li>Back up files to your PC or another storage media and delete files.</li> <li>Change to another card which has enough free space.</li> <li>Set "<b>File No.</b>" to "<b>Reset.</b>"</li> <li>Format the storage media.</li> </ul>
File number is full. Cannot record video.	-	Folder and file number have reached the maximum number and you can not record.	<ul style="list-style-type: none"> <li>Set "<b>File No.</b>" to "<b>Reset</b>" and format the storage media. Remember to back up important files before formatting.</li> </ul>
File number is full. Cannot take a photo.	-	Folder and file number have reached the maximum number and you can not record.	<ul style="list-style-type: none"> <li>Set "<b>File No.</b>" to "<b>Reset</b>" and format the storage media. Remember to back up important files before formatting.</li> </ul>
Activate remote control.		Remote function was set to off.	<ul style="list-style-type: none"> <li>Set "<b>Remote</b>" function to "<b>On.</b>"</li> </ul>

## Playback

Message	Icon	Informs that ...	Action
Read Error	-	Some problems occurred when reading data from the storage media.	<ul style="list-style-type: none"> <li>Use the camcorder to format the storage media after backing up important files to a PC or another storage device.</li> </ul>
Corrupted file	-	This file can not be read.	<ul style="list-style-type: none"> <li>Use the camcorder to format the storage media after backing up important files to a PC or another storage device.</li> </ul>



## Editing videos

Message	Icon	Informs that ...	Action
Cannot select different resolution	-	The files you want to combine have different resolutions.	<ul style="list-style-type: none"> <li>You can not combine files that have different resolutions.</li> </ul>
Not enough free space in Internal Memory.	-	You cannot edit due to insufficient internal memory.	<ul style="list-style-type: none"> <li>Edit after deleting unnecessary files.</li> </ul>
Not enough free space in Card.	-	You cannot edit due to insufficient space on memory card.	<ul style="list-style-type: none"> <li>Edit after deleting unnecessary files.</li> </ul>
Select 2 files for combine.	-	Only two files can be combined.	<ul style="list-style-type: none"> <li>Combine two files first then combine the other. But, files cannot be combined when the total size of the files exceeds 1.8GB.</li> </ul>
Total file size is over than 1.8GB.	-	The files whose total size is likely to exceed 1.8GB cannot be combined.	<ul style="list-style-type: none"> <li>Perform a divide or partial delete function first to delete unnecessary parts of the files, and then perform the combine function.</li> </ul>
Cannot edit less than 6sec file.	-	A file with a total playback time under 6 seconds cannot be partially deleted or divided.	<ul style="list-style-type: none"> <li>Edit files with recording times over 6 seconds.</li> </ul>

# troubleshooting

## USB

Message	Icon	Informs that...	Action
Fail Printer Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a printer.	<ul style="list-style-type: none"><li>• Check the USB cable.</li><li>• Try the connection procedure again.</li><li>• Switch "USB connect" function to "PictBridge."</li></ul>
Fail USB Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a PC.	<ul style="list-style-type: none"><li>• Check the USB cable.</li><li>• Try the connection procedure again.</li><li>• Switch "USB connect" function to "Mass Storage."</li></ul>
Ink Error	-	There is a problem with an ink cartridge.	<ul style="list-style-type: none"><li>• Check the ink cartridge.</li><li>• Put a new ink cartridge into the printer.</li></ul>
Paper Error	-	There is a problem with the paper.	<ul style="list-style-type: none"><li>• Check the paper in the printer. If there is no paper, insert paper.</li></ul>
File Error	-	There is a problem with the file.	<ul style="list-style-type: none"><li>• Your camcorder does not support this file format.</li><li>• Try another file recorded on your camcorder.</li></ul>
Printer Error	-	There is a problem with the printer.	<ul style="list-style-type: none"><li>• Turn the printer's power off and on.</li><li>• Contact the printer manufacturer's service center.</li></ul>
Print Error	-	A problem occurred during printing.	<ul style="list-style-type: none"><li>• Do not remove power source or eject memory card during printing.</li></ul>

## Wireless Network

Message	Icon	Informs that...	Action
Connection failed. Time expire.	-	<ul style="list-style-type: none"> <li>WPS PBC button was not pressed within 2 minutes, or WPS PIN was not entered to AP.</li> <li>Failed to connect to the Sender in Device to Device mode within 2 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>Try again and press WPS button or enter the WPS PIN within 2 minutes.</li> </ul>
Connection failed.	-	Camcorder's WLAN configuration does not match to that of AP.	<ul style="list-style-type: none"> <li>Configure the IP settings (auto or manual) of your camcorder to match the AP's.</li> </ul>
Initializing failed.	-	Failed to initialize DLNA devices.	<ul style="list-style-type: none"> <li>Reset DLNA devices and try again.</li> </ul>
No devices found.	-	No renderer that can be connected to the camcorder is found in the connected network.	<ul style="list-style-type: none"> <li>Use Refresh button to search for the renderer.</li> <li>Check your network connection.</li> </ul>
No Wi-Fi AP found.	-	No available AP is found around you or the camcorder's WLAN is not functioning properly.	<ul style="list-style-type: none"> <li>Check whether an AP is available near you.</li> <li>If an available AP does exist and the problem persists, contact Samsung Service Center.</li> </ul>
File reception failed.	-	Device on the other end is turned off or network connection has problem.	<ul style="list-style-type: none"> <li>Check if recipient's device is turned on.</li> <li>Check if network connection works properly and try again.</li> </ul>
Invalid password.	-	In Device to Device mode, the Receiver's and Sender's password do not match.	<ul style="list-style-type: none"> <li>Correctly enter the password sent by Sender in Receiver screen.</li> </ul>

## SYMPTOMS AND SOLUTIONS

If these instructions do not solve your problem, contact your nearest Samsung authorized service center.

### Power

Symptom	Explanation/Solution
The camcorder does not turn on.	<ul style="list-style-type: none"> <li>The battery may not be installed in your camcorder. Insert the battery into the camcorder.</li> <li>The inserted battery may be discharged. Charge the battery or replace it with a charged one.</li> <li>If you use the AC power adaptor, make sure it is properly connected to a wall outlet.</li> </ul>
The power turns off automatically.	<ul style="list-style-type: none"> <li>Is <b>"Auto Power Off"</b> set to <b>"5 Min"</b>? If no button is pressed for about 5 minutes, the camcorder is automatically turned off (<b>"Auto Power Off"</b>). To disable this option, change the setting of <b>"Auto Power Off"</b> to <b>"Off."</b> ➔page 101</li> <li>The battery is almost exhausted. Charge the battery or replace it with a charged one.</li> </ul>
Power cannot be turned off.	<ul style="list-style-type: none"> <li>Remove the battery or unplug the AC power adaptor, and connect the power supply to the camcorder again before turning it on.</li> </ul>
The battery is quickly discharged.	<ul style="list-style-type: none"> <li>The temperature is too low.</li> <li>The battery is not fully charged. Charge the battery again.</li> <li>The battery has reached the end of its lifespan and cannot be recharged. Use another battery.</li> </ul>

### Display

Symptom	Explanation/Solution
The TV screen or LCD display has distorted images or has stripes at the top/bottom or on the left/right.	<ul style="list-style-type: none"> <li>This can occur when recording or viewing a 16:9-ratio image on a 4:3-ratio TV, or vice versa. For more details, see the display specification. ➔page 91</li> </ul>
Unknown image appears on the LCD screen.	<ul style="list-style-type: none"> <li>The camcorder is in Demo mode. If you do not want to see Demo images, change the setting <b>"Demo"</b> to <b>"Off."</b> ➔page 105</li> </ul>
Unknown indicator appears on the screen.	<ul style="list-style-type: none"> <li>A warning indicator or message appears on the screen. ➔pages 136~141</li> </ul>
The afterimage remains on the LCD screen.	<ul style="list-style-type: none"> <li>This occurs if you disconnect the AC power adaptor or remove the battery before turning the power off.</li> </ul>
The image on the LCD screen looks dark.	<ul style="list-style-type: none"> <li>Ambient light is too bright. Adjust the brightness and angle of LCD.</li> <li>Use LCD enhancer function.</li> </ul>

## Recording

Symptom	Explanation/Solution
Pressing the <b>Recording start/stop</b> button does not start recording.	<ul style="list-style-type: none"> <li>Press the <b>MODE</b> button to set the Video record mode. ➡ page 27</li> <li>There is not enough free space to record on the storage media.</li> <li>Check if memory card is not inserted or write-protect tab is set to lock.</li> </ul>
The actual recording time is less than the estimated recording time.	<ul style="list-style-type: none"> <li>The estimated recording time may vary depending on content and features used.</li> <li>When you record an object that moves fast, the actual recording time may be shortened.</li> </ul>
The recording stops automatically.	<ul style="list-style-type: none"> <li>There is no more free space for recording on the storage media. Back up important files on your PC and format the storage media or delete the unnecessary files.</li> <li>If you make recordings or delete files frequently, the performance of the storage media deteriorates. If this occurs, format the storage media again.</li> <li>If you use a memory card with low writing speed, the camcorder automatically stops recording videos and a corresponding message appears on the LCD screen.</li> </ul>
When recording a subject illuminated by bright light, a vertical line appears.	<ul style="list-style-type: none"> <li>This is not a malfunction.</li> </ul>
When the screen is exposed to direct sunlight during recording, the screen becomes red or black for an instant.	<ul style="list-style-type: none"> <li>This is not a malfunction.</li> </ul>
During recording, the date/time does not display.	<ul style="list-style-type: none"> <li><b>“Date/Time Display”</b> is set to <b>“Off.”</b> Set the <b>“Date/Time Display”</b> to On. ➡ page 90</li> </ul>
You cannot record a photo image.	<ul style="list-style-type: none"> <li>Set your camcorder to the Photo record mode. ➡ page 27</li> <li>Release the lock on the write-protection tab of the memory card if any.</li> <li>The storage media is full. Use a new memory card or format the storage media. ➡ page 97 Or remove unnecessary images. ➡ page 110</li> </ul>
You don't hear the shutter sound when you record a photo image.	<ul style="list-style-type: none"> <li>Set <b>“Shutter Sound”</b> to <b>“On.”</b></li> <li>During dual recording, the Shutter Sound is off.</li> <li>When the Mini HDMI cable or Audio/Video cable is connected to the camcorder, the Shutter Sound is not available.</li> </ul>

# troubleshooting

## Recording

Symptom	Explanation/Solution
You don't hear the beep sound.	<ul style="list-style-type: none"><li>• Set "<b>Beep Sound</b>" to "<b>On</b>."</li><li>• Beep sound is temporally off while recording videos.</li></ul>
There is a time difference between the point where you press the <b>Recording start/stop</b> button and the point where the recorded video starts/stops.	<ul style="list-style-type: none"><li>• On your camcorder, there may be a slight time delay between the point when you press the <b>Recording start/stop</b> button and the actual point where the recorded video starts/stops. This is not an error.</li></ul>
Horizontal stripes appear on the images.	<ul style="list-style-type: none"><li>• This occurs when recording images under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction.</li></ul>

## Storage Media

Symptom	Explanation/Solution
Memory card functions do not operate.	<ul style="list-style-type: none"><li>• Insert a memory card into your camcorder properly. ➡page 32</li><li>• If you use a memory card formatted on a computer, format it again directly on your camcorder. ➡page 97</li></ul>
Image cannot be deleted.	<ul style="list-style-type: none"><li>• Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➡page 33</li><li>• You cannot delete a protected images. Release protection of the image using the Protect function. ➡page 109</li></ul>
You cannot format the memory card.	<ul style="list-style-type: none"><li>• Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➡page 33</li><li>• The memory card is not supported on your camcorder or card has some problems.</li></ul>
The data file name is not indicated correctly.	<ul style="list-style-type: none"><li>• The file may be corrupted.</li><li>• The file format is not supported by your camcorder.</li><li>• Only the file name is displayed if the directory structure complies with the international standard.</li></ul>

## Adjusting the image during recording

Symptom	Explanation/Solution
Focus does not adjust automatically.	<ul style="list-style-type: none"><li>• Set <b>"Focus"</b> to <b>"Auto."</b> ➡page 70</li><li>• The recording conditions are not suitable for auto focus. Adjust the focus manually. ➡page 70</li><li>• The lens is dusty on the surface. Clear the lens and check the focus.</li><li>• Recording is being made in a dark location. Use a light to brighten the area.</li></ul>
The image appears too bright, flickers, or changes color.	<ul style="list-style-type: none"><li>• This may occur when you make a recording under a fluorescent sodium, or mercury lamp. Cancel <b>"iSCENE"</b> to avoid or minimize this phenomenon. ➡page 61</li></ul>
Image's color balance is not natural.	<ul style="list-style-type: none"><li>• White balance adjustment is required. Adjust to the proper <b>"White Balance."</b> ➡page 64</li></ul>
A subject passing quickly through the frame appears distorted	<ul style="list-style-type: none"><li>• This is called the focal plane phenomenon. This is not a malfunction. Because of the way the image device (CMOS sensor) reads out video signals, a subject passing through a frame rapidly may appear to bend, depending on the recording conditions.</li></ul>

## Playback on your camcorder

Symptom	Explanation/Solution
Playback (play/pause) function does not work.	<ul style="list-style-type: none"><li>• Image files recorded using another device may not play on your camcorder.</li><li>• Check memory card compatibility. ➡page 33</li></ul>
Photo images stored on a storage media are not displayed in the actual size.	<ul style="list-style-type: none"><li>• Photo images recorded on other devices may not appear in their actual size. This is not an error.</li></ul>
Playback is interrupted unexpectedly.	<ul style="list-style-type: none"><li>• Check if the AC power adaptor or battery back is properly connected and secure.</li></ul>

# troubleshooting

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## Playback on other devices (TV, etc.)

Symptom	Explanation/Solution
You cannot view the image or hear the sound from the connected device.	<ul style="list-style-type: none"><li>• Make sure that the connection cable is connected to the proper jack.</li></ul>
The image appears distorted on a TV.	<ul style="list-style-type: none"><li>• This phenomenon is caused by connecting to a TV with 4:3 aspect ratio.</li></ul>
You cannot view the image or hear the sound from a TV connected using the HDMI cable.	<ul style="list-style-type: none"><li>• Images will not be output from the HDMI jack if the material is copyright protected.</li></ul>

## Connecting/Dubbing with other devices (Recorder, PC, Printer, etc.)

Symptom	Explanation/Solution
You cannot dub correctly using the HDMI cable.	<ul style="list-style-type: none"><li>• You cannot dub images using the HDMI cable.</li></ul>
You cannot dub correctly using the Audio/Video cable.	<ul style="list-style-type: none"><li>• The Audio/Video cable is not connected properly. Make sure that the Audio/Video cable is connected to the proper jack, i.e. to the input jack of the device used for dubbing images from your camcorder. ➡page 126</li></ul>
Your PictBridge printer cannot print photos from your camcorder.	<ul style="list-style-type: none"><li>• Your printer may not print images edited on a computer or recorded using other devices. This is not an error.</li></ul>



## Connecting to a computer

Symptom	Explanation/Solution
Your computer does not recognize your camcorder.	<ul style="list-style-type: none"> <li>• Disconnect the USB cable from the computer and camcorder, restart the computer, then connect the USB cable again correctly.</li> </ul>
Cannot play a video file properly on a PC.	<ul style="list-style-type: none"> <li>• A video codec is needed to play the file recorded on your camcorder. Install the software provided with your camcorder. ➡page 133</li> <li>• Make sure you insert the connector in the correct direction, and connect the USB cable to the USB jack on your camcorder firmly.</li> <li>• Disconnect the cable from the computer and camcorder, restart the computer, and then connect the cable again properly.</li> <li>• To play back an HD video file, a computer with better specifications is required.</li> </ul> <p>Use a computer with the recommended specifications. ➡page 129</p>
Intelli-studio does not function properly.	<ul style="list-style-type: none"> <li>• Exit the Intelli-studio application, and restart the Windows computer.</li> </ul>
Intelli-studio does not start.	<ul style="list-style-type: none"> <li>• Set PC Software to On in the Settings menu or install Intelli-studio in the computer. ➡pages 93, 133</li> </ul>
Your computer is not playing videos, images, or sound located on your camcorder properly.	<ul style="list-style-type: none"> <li>• Video playback or sound may stop temporarily depending on your computer. The video or sound copied to your computer is not affected.</li> <li>• If your camcorder is connected to a computer that does not support Hi-speed USB (USB2.0), the image or sound may not be played correctly. The image and sound copied to your computer are not affected.</li> </ul>
The playback screen is paused or distorted.	<ul style="list-style-type: none"> <li>• Check the system requirements to play a video.</li> <li>• Shut down all other applications currently running on the computer.</li> <li>• If you play a video on your camcorder when it is connectd to a computer, the video may not play smoothly on the computer, depending on the transfer speed. Please copy the file to your PC, and then play it back.</li> </ul>

# troubleshooting

## Overall operations

Symptom	Explanation/Solution
The date and time are incorrect.	<ul style="list-style-type: none"> <li>Has the camcorder been left unused for a long period of time? The backup built-in rechargeable battery may be discharged. ↳ page 29</li> </ul>

## Menu items that cannot be used at the same time

Symptom	Cannot use	Because of the following settings
Menu items are grayed out	“iSCENE”	“Aperture : Manual,” “Shutter : Manual”
	“Aperture: Manual”	“Shutter : Manual,” “iSCENE”
	“Shutter: Manual”	“Aperture : Manual,” “iSCENE”
	“Video Resolution,” “Fader”	“Time Lapse REC”
	“Photo Resolution”	“Cont. Shot : High Speed”

- You cannot select grayed menu items in the current recording/playback mode.
- There are some functions you cannot activate simultaneously.  
The list shown above shows examples of unworkable combinations of functions and menu items.
- Menu and quick menu cannot be used in Smart Auto mode.
- The following functions cannot be used during video recording: Video Resolution, Video Quality, Photo Resolution, Photo Sharpness, Fader, Cont.Shot, Digital Zoom, Self Timer, Time Lapse REC.
- Only quick menu is available during video recording.
- The following functions are automatically set to Off or Auto mode in the Smart Auto mode:
  - “iSCENE,” “Shutter,” “Digital Effect,” “Tele Macro,” etc.
- In the Smart Auto mode, your camcorder automatically chooses the appropriate camcorder settings based on a detected type of scene. Most settings are automatically adjusted in Smart Auto mode. To set or adjust functions manually, you must release the Smart Auto mode first.
- The following functions are automatically set to Off or Auto mode in the Slow Motion mode:
  - “iSCENE,” “Resolution,” “White Balance,” “Shutter,” “Super C.Nite,” “Face Detection,” “Fader,” “Digital Zoom,” “Time Lapse REC,” etc.
- In Slow Motion mode, the menu cannot be accessed, however, some Quick menu items such as Aperture, EV, Focus, Digital Effect etc. are available.

## Using Kies (HMX-S15/S16 only)

### Environment configuration for use of Kies

1. When setting Kies' Allshare for the first time, you should set a name which other devices can recognize Kies. Enter the name you want to use when identifying the share lists.
2. You should set the access authority to let other devices access to Kies. Set the device to "Allow" or "Allow all" to use it with Kies.
3. When sending files from the other device to Kies, you need a folder to save them. Set the folder to download files.



- When enabling the "**Backup to PC**" function in HMX-S15/S16, operate the 'Setting' menu in Kies' Allshare, and then set S15/16 to 'Allow' from the 'Device Settings.'



- If you can't find the name S15 or S16 in 'Device Settings' of the Kies' Allshare 'Settings' menu, set the Windows firewall to 'Off' and try again.



# troubleshooting

## Music Shake

### What is a Music Shake?

Music Shake uses the basic sound sources (internal/external) to automatically compose and generate a variety of background music titles. With simple steps, you can easily sound background music titles for videos or slideshows.

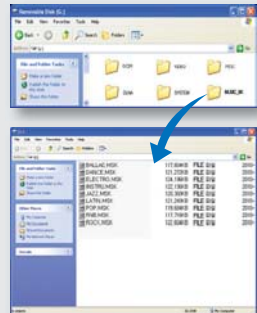
This camcorder has sound sources for genres such as ballad, jazz, and dance & disco. After downloading external sound sources, you can enjoy various background music titles.

External sound sources have 9 separate genres:

	Genre	External file name
1	Ballad	BALLAD.MSK
2	Jazz	JAZZ.MSK
3	Dance & Disco	DANCE.MSK
4	Pop	POP.MSK
5	Rock	ROCK.MSK
6	R&B	RNB.MSK
7	Latin	LATIN.MSK
8	Electric	ELECTRO.MSK
9	Instrumental	INSTRU.MSK

### Using external sound sources

1. In the website ([www.samsung.com](http://www.samsung.com)), use "support" and "download" to select the desired sound source and download it.
2. On the SD card, create the folder MUSIC\_SK.
3. Copy the downloaded file into the folder.
4. Insert the SD card that has external sound sources in your camcorder.
5. In the slideshow or background music, you can select an external sound source to listen to. ➔ pages 83/87



- If you change the names for folder and sound source, your camcorder cannot identify the sound source.
- Using the provided sound sources, you cannot repurpose, delegate, rent, release for music albums, and sell them.

# maintenance & additional information

## MAINTENANCE

Your camcorder is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

### Cautions when storing

- For safekeeping, turn off the camcorder.
  - Remove the battery and AC power adaptor. ➔ pages 20, 21
  - Remove the memory card. ➔ page 32

### LCD screen

- Do not push the LCD screen too hard or strike it with anything.
- When using the camcorder in cold conditions, afterimage may appear on the LCD screen. This is not a malfunction.
- If you leave the power on for a long time, the surface around the LCD screen becomes hot.
- An LCD screen is manufactured using advanced technology which creates screens with pixel failure rates of less than 0.01%. However, a black or bright spot (red, blue, white) may appear in the center of the LCD screen and up to two spots may appear outside the center. These spots, which are normally incurred during the manufacturing process, do not affect the recorded images.

### Lens

- Use an optional air blower to blow out dirt and other small objects. Do not wipe the lens with cloth or your fingers.
- When the lens gets frosty, turn the power off and leave it off for approximately an hour. When the temperature of the lens is similar to the ambient temperature, the frost will disappear.

#### When there is dew condensation, put the camcorder aside for a while before using

- What is dew condensation?

Dew condensation happens when a camcorder is moved to a location where there is a significant temperature difference from the previous location. The dew condenses on the external or internal parts of the camcorder, and on the reflection lens. If there is dew on or in your camcorder, it may cause the camcorder to malfunction or damage the camcorder when you turn the power on.

- Exactly when does dew condensation occur?

When you move the camera to a location with a higher temperature than the previous location, or when you move it to a hot area suddenly. Examples:

- You record outside in cold weather during the winter and then move the camera indoors.
- You record outside in hot weather after being indoors or inside a car where the A/C was running.

- What can I do?

- Turn the power off, detach the battery, and leave the camcorder in a dry area for 1~2 hours before using it.



- Use the camcorder only after dew condensation has completely disappeared.
- Be sure to use the recommended accessories supplied with the camcorder. For service, contact your nearest Samsung authorized service center.

# USING YOUR CAMCORDER ABROAD

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- Each country or region has its own electric and color systems.
- Before using your camcorder abroad, check the following items.

## Power sources

The AC adaptor provided lets you power, recharge, and use your camcorder in any country/region that has AC power in the 100 V to 240 V, 50/60 Hz range. You may need a commercially available AC plug adaptor depending on the design of local wall outlets.

## Viewing videos recorded with HD (high definition) image quality on a TV

In countries/regions where 1080/60i is supported, you can view videos with the same HD (high definition) image quality as that of the recorded images. You need an **NTSC**-system-based and 1080/60i compatible TV (or monitor) with an HDMI or Audio/Video cable connected.

## Viewing videos recorded with SD (standard definition) image quality on a TV

To view images recorded in SD (standard definition) image resolution, you need an **NTSC**-system-based TV with audio/video jacks and an Audio/Video cable connected.

## On TV color systems

Your camcorder is an **NTSC**-system-based camcorder. If you want to view your recordings on a TV or to copy them to an external device, it must be an **NTSC**-system-based TV or external device and have the appropriate Audio/Video jacks. Otherwise, you may need to use a separate video format transcoder (For example, an NTSC-PAL format converter).



The format transcoder is not provided by Samsung.

## NTSC-compatible countries/regions

Bahamas, Canada, Central America, Japan, Korea, Mexico, Philippines, Taiwan, United States of America, etc.

## PAL-compatible countries/regions

Australia, Austria, Belgium, Bulgaria, China, CIS, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Great Britain, Holland, Hong Kong, Hungary, India, Iran, Iraq, Kuwait, Libya, Malaysia, Mauritius, Norway, Romania, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, etc.



You can make recordings with your camcorder and view pictures on the LCD screen anywhere in the world.

# specifications

Model name	HMX-S10BN/HMX-S15BN/HMX-S16BN	
System	<b>Video signal</b> <b>Picture compression format</b> <b>Audio compression format</b> <b>Image device</b> <b>Lens</b>  <b>Focal length</b> <b>Filter diameter</b> <b>Wireless networking protocol</b>	NTSC H.264 (MPEG-4.AVC) AAC (Advanced Audio Coding) 1/2.3", 10M Pixel CMOS F1.8 ~ F3.3, 15x Optical Zoom (18x Intelli Zoom), 10x Digital Zoom (video recording only) 4.8mm ~ 72mm Ø46 WiFi (802.11b/g/n)
LCD screen	<b>Size/dot number</b> <b>LCD screen method</b> <b>Touch panel type</b>	3.5" Wide Touch LCD / 115M Pixel TFT LCD Capacitive
Connectors	<b>Composite output</b> <b>HDMI output</b> <b>Audio output</b> <b>USB output</b> <b>External microphone</b>	1Vp-p (75 $\Omega$ terminated) C type connector -7.5 dBs (600 $\Omega$ terminated) USB 2.0 Ø 3.5 stereo mini-jack
General	<b>Power source</b> <b>Power source type</b>  <b>Power consumption (Recording)</b> <b>Operating temperature</b> <b>Storage temperature</b> <b>Storage media</b>  <b>External dimensions (WxHxD)</b> <b>Weight</b>  <b>Internal MIC</b>	DC 5 V, Lithium Ion battery 3.7 V Lithium Ion battery, Power supply (100 V ~ 240 V) 50/60 Hz 3.5W (LCD on)  0 °C ~ 40 °C (32 °F ~ 104 °F) -20 °C ~ 60 °C (-4 °F ~ 140 °F) Internal memory (SSD) (HMX-S15/S16 only), Memory card (SD/SDHC) (optional) Approx. 66.3 mm (2.61 inches) x 69.5 mm (2.74 inches) x 130.0 (5.12 inches) Approx. 415g (0.91lb, 14.64oz) (Except for Lithium Ion battery) 2-channel stereo, Zoom microphone

※ These technical specifications and design may be changed without notice.



FCC ID : A3LHMX-S16BN

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Caution:**

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**RF exposure statements:**

This device is for handheld operation only. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

**Operation is subject to the following two conditions:**

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**Caution:**

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.



# warranty

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## **SAMSUNG LIMITED WARRANTY**

SAMSUNG Electronics America Inc. (SEA), warrants that this product is free from defective material and workmanship.

SEA further warrants that if product fails to operate properly within the specified warranty period and the failure is due to improper workmanship or defective material, SEA will repair or replace the product at its option.

All warranty repairs must be performed by a SEA authorized service center. The name and address of the location nearest you can be obtained by calling toll free: 1-800 SAMSUNG (1-800-726-7864).

Labor

90 days carry-in

Parts

1 year

On carry-in models, transportation to and from the service center is the customer's responsibility.

The original dated sales receipt must be retained by the customer and is the only acceptable proof of purchase.

It must be presented to the authorized service center.

## **EXCLUSIONS (WHAT IS NOT COVERED)**

This warranty does not cover damage due to accident, fire, flood and/or other acts of God; misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, commercial use, or damage that occurs in shipping.

Exterior and interior finish, lamps, and glass are not covered under this warranty.

Customer adjustments which are explained in the instruction manual are not covered under the terms of this warranty.

This warranty will automatically be voided for any unit found with a missing or altered serial number. This warranty is valid only on products purchased in the United States and Puerto Rico.

Some States do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.



If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center Samsung Electronics America, inc.

1-800-SAMSUNG (726-7864)  
[www.samsung.com/us](http://www.samsung.com/us)



#### **RoHS compliant**

Our product complies with "The Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment", and we do not use the 6 hazardous materials- Cadmium(Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr +6), Poly Brominated Biphenyls (PBBs), Poly Brominated Diphenyl Ethers(PBDEs)- in our products.